

PRESERVATION
ARCHITECTURE

THE PETALUMA SILK MILL



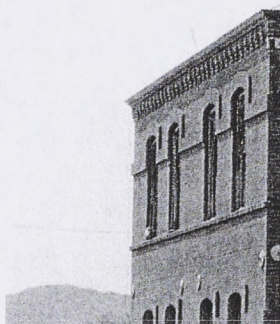
HISTORIC STRUCTURES REPORT

for the
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December 20, 2006

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THE PETALUMA SILK MILL



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TABLE OF CONTENTS

INTRODUCTION

<i>Introduction</i>	pp.1-2
<i>PSM Site/Key Plan</i>	sh.1

SUMMARY OF HISTORIC SIGNIFICANCE

<i>Summary of Significance</i>	pp.3-4
<i>Background</i>	4-5
<i>Architects and Builders</i>	5-6
<i>Chronology</i>	7-9

HISTORIC PRESERVATION ZONES

<i>Historic Preservation Zoning</i>	pp.10-12
<i>Summary of Significant Features</i>	12
<i>Zoned Site and Floor Plans</i>	sh.2-4

DESCRIPTIONS

<i>Exterior</i>	pp.13-17
<i>Site & Setting</i>	17-18
<i>Interior</i>	18-20

RECOMMENDATIONS

<i>General</i>	pp.21-22
<i>Project Recommendations</i>	23-33
<i>Historic Material Treatment Recommendations:</i>	
<i>Exterior</i>	34-44
<i>Interior</i>	45-46

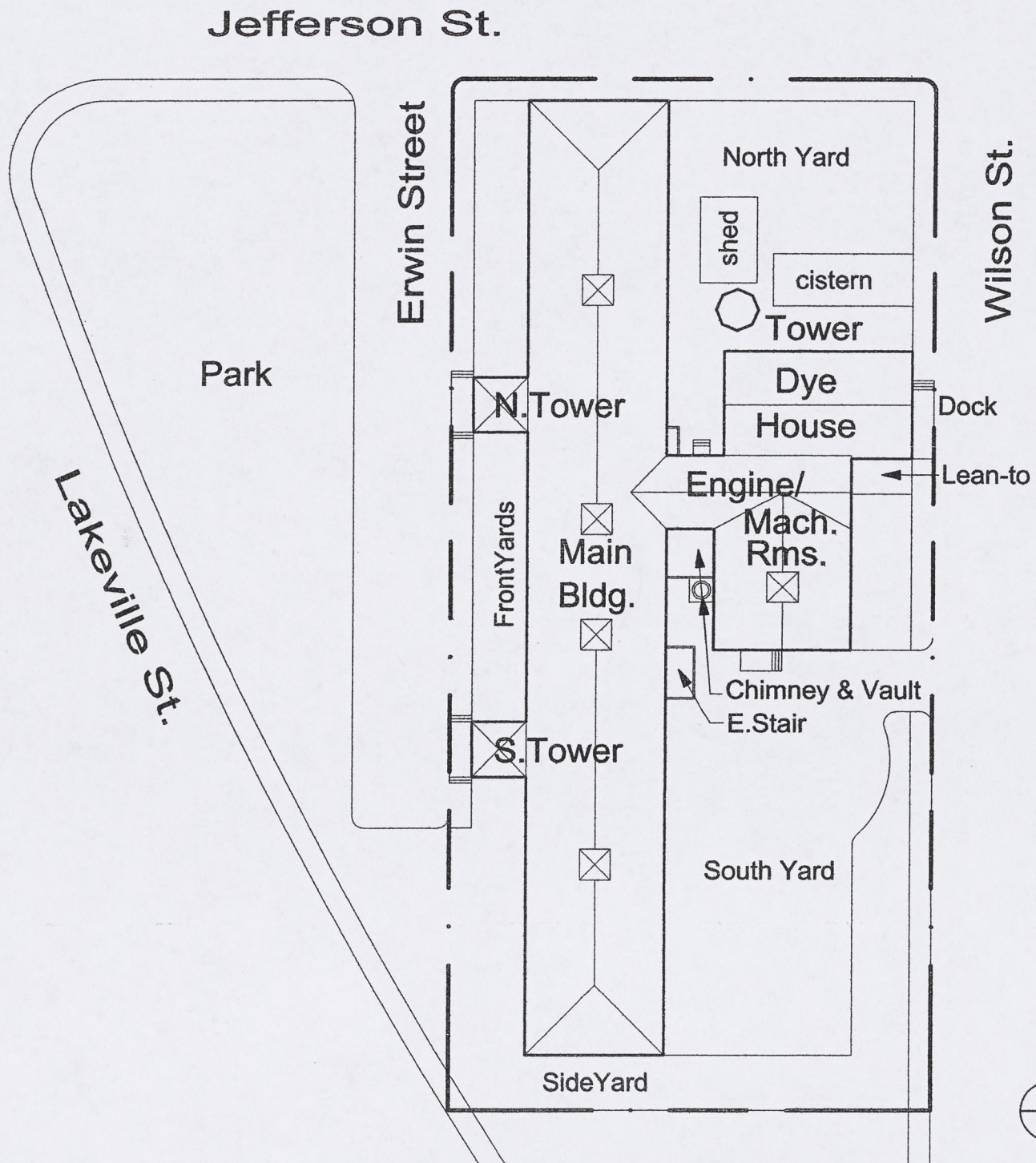
RESOURCES & REFERENCES

<i>Copies of Historic Photos</i>	Sec.1
<i>NR Nomination</i>	Sec.2
<i>Copies of 1922 Specifications & 1892-1922 Drawings</i>	Sec.3
<i>Reference Standards</i>	Sec.4

Cover: View of north yard, c1900 (courtesy Petaluma Museum)

Petaluma Silk Mill

Historic Structures Report



Site/Key Plan

Not to Scale

Sheet 1



THE PETALUMA SILK MILL HISTORIC STRUCTURES REPORT

Fig.1: Petaluma Silk Mill

Front Elevation of Carlson & Currier Co. Silk Mill, c1892
Charles H. Havens. Architect (Courtesy Petaluma Museum)

INTRODUCTION

The subject of this Historic Structures Report (HSR) is a 19th century textile mill building located in Petaluma, California. The Petaluma Silk Mill (PSM) has, since 1986, been recognized as historic, having been then listed both on the National Register of Historic Places (NR) and the California Register of Historic Resources (CR). While various titles are used for this property, The Petaluma Silk Mill (PSM) is used herein, as it is the name assigned to it in its formal historical designations.

Original portions of the PSM were constructed in 1892. Additions were added in 1906 and in 1922, and there has since been no substantial changes. Thus, the feeling and sense of this edifice — both aspects of central importance to the subject matter of historic preservation — are of the late-19th and early-20th centuries. The PSM thus directly conveys the feeling and sense of an early American and Californian industrial era.

In the course of the efforts that led to the PSM's listing on the NR, a nomination inventory and record was produced and recorded, which is excerpted throughout and attached hereto for reference. That record is thorough, well researched, and well written, so has been generally relied upon to provide the historic record underlying this report.

This HSR adds to that record in its degree of detail. The specific purpose of this HSR is, therefore, to:

- Document the historic structures of the PSM in detail, including the evaluation and identification of characteristic forms, features and materials
- Identify the relative significance of the various parts of the historical resources
- Evaluate and present treatment recommendations specific to a proposed project
- Evaluate and present treatment recommendations addressing historic materials and assemblies

This HSR is specifically intended to assist with the rehabilitation and adaptive reuse of the PSM. As such, this is a report about an historic building and its property. The many important people associated with this place over the years — the Carlsons, Curriers, Beldings and Agnews — as well as the many Petalumans who worked here, will for the purposes of this report, necessarily remain in the background.

Neither does this HSR document or evaluate textile

manufacturing or industrial activities or its equipment or furnishings. Which is not to suggest that these processes and their infrastructure are not an important part of this resource. They are, in fact, an integral part, and arguably as interesting as the building itself. To enter this building is to enter an active, century old textile mill. With its eventual adaptive reuse, these mill uses will be gone. Thus, the documentation of processes and equipment is an important part of the rehabilitation process, in particular where permanent changes will be made. This important matter is addressed in further detail under project specific recommendations.

Throughout this report, the primary building parts are identified by their historic names (see sheet I):

Main building refers to the 2-1/2 story masonry mill structure and its towers.

Engine/machine room refers to the L-shaped, wood frame and metal clad wing, which originally housed the engines, boilers and a coal storage room.

Dye house refers to the 1-story brick masonry wing attached to the engine/machine room.

Water tower refers to the steel framed water tank structure in the north half of the rear yard.

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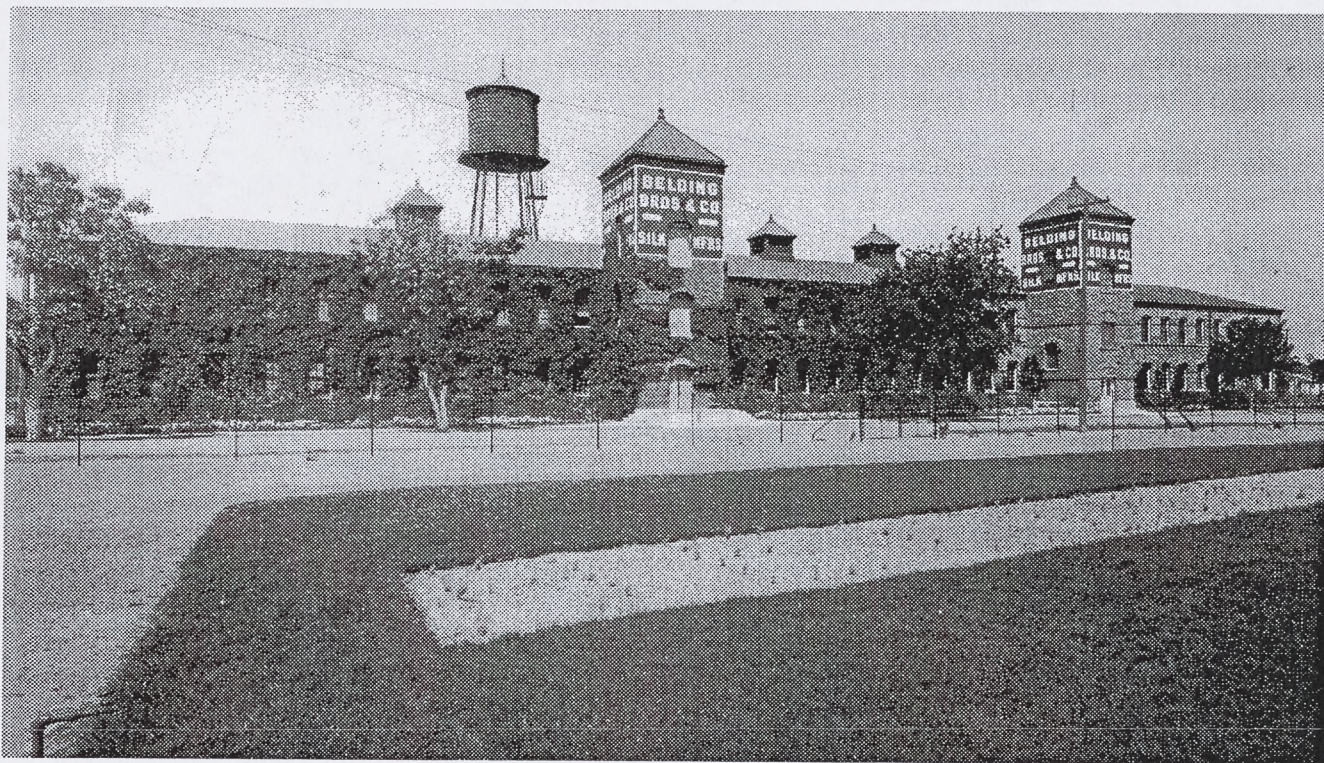
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Fig.2: Petaluma Silk Mill, Second Floor Interior, c1922
(courtesy Petaluma Museum)



THE PETALUMA SILK MILL HISTORIC STRUCTURES REPORT

Fig.3: Petaluma Silk Mill, c1929

View of front (west) from Northwest
(courtesy Petaluma Museum)

SUMMARY OF HISTORICAL SIGNIFICANCE

The PSM's history and historical significance are well documented and firmly established via its listing in 1986 on the National Register of Historic Places (NRHP), and the California Register of Historical Resources. The following Statement of Significance is excerpted from the NRHP record authored by Lucy Kortum:

"Since 1892 the Petaluma Silk Mill, now Sunset Line & Twine Company, has been a prominent architectural landmark of the Petaluma industrial waterfront. Charles I. Havens (1849-1916), pioneer San Francisco architect, designed the industrial building, reminiscent of the Victorian New England mills. The enlargements, the first after the 1906 earthquake and the second in 1922, designed by noted Petaluma architect Brainerd Jones, were in compatible styling with the earlier portion of the mill. Sericulture, and more successfully, silk manufacturing were late 19th century manifestations of efforts in California to develop industry in the State. When San Francisco's Carlson-Currier Silk Manufacturing Company announced plans to relocate, in the early 1890s, enterprising Petaluma businessmen launched a successful community campaign to entice the mill to their growth-minded river town. Since then, the Old Silk Mill has symbolized industrial Petaluma, and its

products have carried the town's name nationwide. First came silk thread and fine sewing products of Carlson-Currier and its successors; since 1940 the Sunset Line & Twine Company has produced silk and synthetic fishing lines and more recently specialized natural and synthetic cords and tapes for industry and government..."

Details of the PSM's NRHP listing also identify:

- the applicable criterion of significance is its association to local historical events, including industrial development, textile manufacturing, and transcontinental commerce;
- the historic architectural style as Late Victorian;
- the areas of significance as architecture, commerce, and industry;
- and its period of significance as 1875-1924, with individually significant years of 1892, 1906 and 1922.

In addition to its identified historical significance, the PSM maintains its integrity as a mill building and as a work of architecture. As it stands today, the building has barely changed from that which it was during its period of significance. And though its most current operations as a textile "braiding mill" differs from its roots in the

spooling of silks, the association of uses is strong. To experience the PSM today is, somewhat miraculously, to be embedded within the reality of a 19th century textile mill. Even today, the PSM resonates (both inside and out, due to the deterioration of its windows) with textile machinery, its dye house is suffused, literally, with years of dyeing, while its shop building is Dickensian. Thus, a solid sense of the PSM's original and historical character sustains.

Finally, what is equally important about the PSM, and other early American mill buildings to which it directly relates, is the extent to which their creators — who were the likes of textile industrialists and engineers determined to make product and money in a largely unregulated labor market — devoted the time and resources necessary to build inordinately large scale, ornamental, and durable edifices. We cannot mistake, across the course of more than 100 years, that the PSM is a beautiful and rugged building, with quite careful articulation. Without the beauty resulting from its design and articulation, we would not be finding such a structure worthy of retention and rehabilitation.



Fig.4: Petaluma Silk Mill c1929
View of North Tower (Courtesy the Petaluma Museum)

BACKGROUND

Even in its current, relatively urban context, the Petaluma Silk Mill is a large edifice and an impressive presence, consisting of a long, rectangular main building, with two towers out the front, a pair of buildings forming a single wing out the rear, and a tall water tank structure standing within the rear yard.

Yet, overall, and despite its presence and importance, the PSM is moving towards ruin, characterized by cisterns and lean-tos amidst weeds, and windows agape. To the extent that the building and its site appear unused and slightly medieval.

The PSM has likely always been impressive, particularly in the context of its predominately rural, 19th century setting. But the original building, consisting as it did of less than one-half of what is present today, was — in the context of 19th century American mills — a small mill structure.

Measured against those same early American mills, the PSM likewise epitomized the utilitarian goals of the industrial revolution, an era to which this building closely associates — far moreso than to the subsequent era of industrial modernization. In particular, since the building retains a good deal of period design character, with many of its parts presenting a picturesque yet unarguably urbane architectural expression. The march of segmentally arched windows under a continuous, corbelled brick and formed iron cornice, for example. Or, at the interior, another march of turned wooden posts atop which corbelled blocks carry the load of paired floor beams. Many such features were, in fact, the norm for mill buildings of this era, and were thus typified in mill construction manuals.

In the terminology of factory and mill construction at the turn of the 20th century, the PSM is of "slow burning" construction, employing timber framing elements, wood framing of not less than 3 inches thick, and double layers of planking at floors. Other such requirements found at the PSM are its external stair towers — sometimes referred to as fire towers — two at the front and one at the rear. The south front tower and the rear stair tower, which date from 1922, each have the then prescribed steel window assemblies for fire resistance. And the height of the front towers is at least in part the result of fire resistant construction, as their upper walls project high above the main building, and thus act as parapets that prevent the spread of a fire from the main building into the towers, which were to serve as means of escape in the event of a fire.

Other standard fire prevention treatments incorporated into the PSM include tin clad and lined fire doors, in particular the rolling door that separates the main

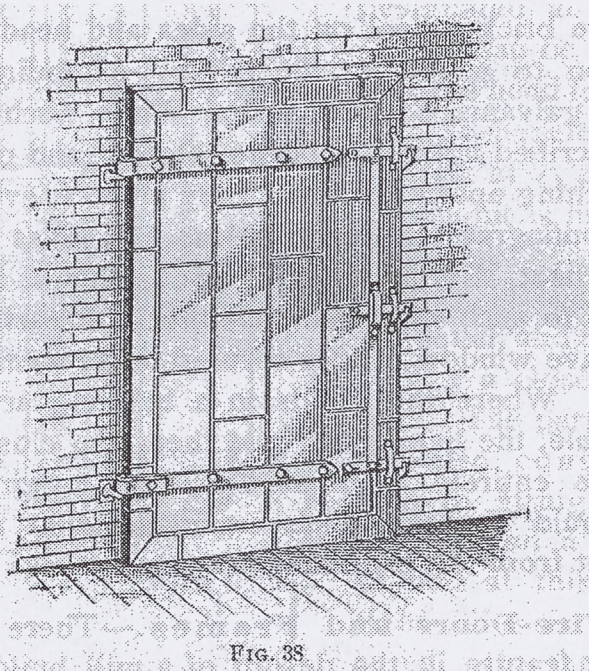


Fig.5: Fire Door

1925 illustration (from *Architectural Design*)

building from the engine and machine room wing, but also the interior stair tower doors, which utilize the prescribed wire glass, as well as a fire sprinkler system with a water tower. These fire-resistive systems and assemblies were all implemented in 1922, when the PSM was greatly enlarged, and by which time these components and systems were codified.

A 1925 volume, *Architectural Design*, provides an example of the standardization of mill construction coincident with the expansion of the PSM in the 1920s. One section of this volume is given over to the practice of "mill design." Therein, a range of detailed design treatments are described and illustrated, including the use of brick construction with segmented and rowlock brick arches, and wood windows, which are exactly what was used at the PSM. The use and design of a water tower and fire sprinkler system are also detailed therein.

Despite the employment of these standards during the early 20th century, the basic mill form and the specific use of external towers was established in the early half of the 19th century. As described in a 1973 book entitled *Early American Mills*:

"England established a basic architectural vocabulary for the early textile mill, where silk-throwing mills and the principles of their design are carried over to the cotton industry. Functional requirements produced the basic form, unchanged in its essentials throughout eighteenth-and-nineteenth century mill building: a rectangular edifice, somewhat long and narrow in its proportions, with several stories, many windows, and an unbroken,

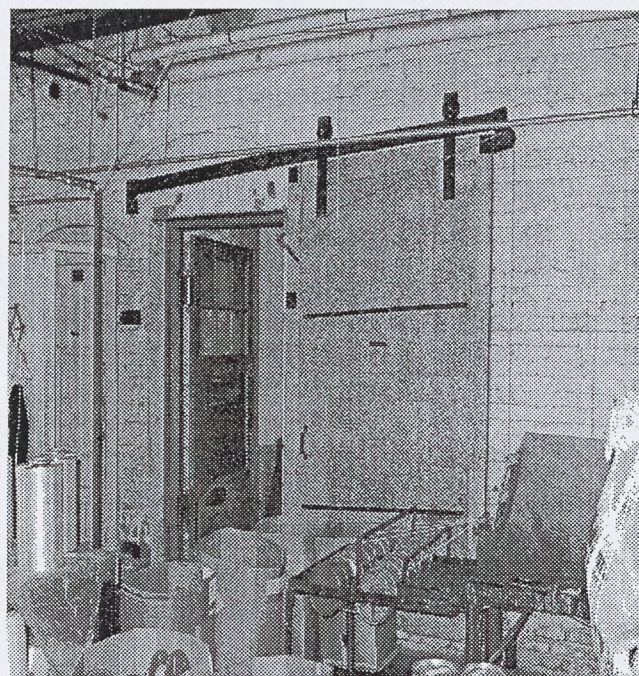


Fig.6: Fire Door

Between the main building and the engine/machine room

uncomplicated interior space. Such proportions were adapted to the arrangement of machines and to the vertical transmission of power..." (p.111-112).

With respect to the employment of external towers, the authors add:

"Another early [nineteenth-century] development came when it was discovered that there were advantages to removing the stairway to an external tower. This freed more space for the machines inside and provided some protection and escape from fire." (p.113)

The story of the PSM's north tower is worth recounting. Originally designed in the 1880s as four stories (see fig.7), with each side of the upper story embellished by brick enframements surrounding a trio of small, arched windows, with a corbelled and dentiled cornice line, atop which ascended a steeply pitched and pyramidal roof — its actual construction omitted the embellished upper story, with the steep roof lowered onto the 3-story tower that is present today. In the 1906 earthquake, the original tower was damaged and its roof thereafter reconstructed with the less steep roof that we see today (and as evidenced by a change of brick, it is apparent that its exterior walls were largely reconstructed at the same time). This reconstructed tower was the model for the south tower of 1922, which was designed and constructed to match the modified 1892 tower, with the exception of window and door types, as well as the roof "cricket" at the east side of the earlier tower, though absent at later tower.

Given this history, the north tower is in fact the more historically significant of the two towers, having not only preceded the 1922 tower, but having also literally been its precedent.



Fig.7: North Tower
Original 1892 design of North Tower (unbuilt)

PSM ARCHITECTS AND BUILDERS

Architects and builders primarily associated with the construction periods of the PSM include its original architect, Charles L. Havens; its original builders, Hedges & Paff; and the architect of its expansion, Brainerd Jones. The following brief bios for each are taken from a 1987 article published in *The Journal* of the Sonoma County Historical Society's, again under the authorship of Lucy Kortum:

Charles L Havens

"In 1892, the year he designed the Petaluma Silk Mill, Charles Havens had been in practice for ten years. San Francisco city directories indicate that he was first associated with Peter R. Schmidt. He established his own practice in 1886; from 1896 until his retirement in 1913 he was the senior partner in the firm of Havens & Toepke. He was admitted to the AIA in 1901 and was a member of the San Francisco chapter of AIA. Havens office in 1892 was at 55 Flood Building, and that year his listing in the City Directory included the notation 'Architect, New City Hall' [He would have been one of many who participated in the twenty-five year construction of San Francisco's ill fated third city hall.]

Among Havens' San Francisco works constructed prior in 1892 is a residence at 1381 South Van Ness, built in 1884 for his own use; today it is an inn. It is mentioned in *Here Today* and was included in a 1980 Victorian Alliance House tour, as was the 1885 residence he built for John F. English at 943 South Van Ness. The James Scobie residence at the corner of Fell and Steiner, built by Havens in 1891, is now known as the Ohlandt House and is part of the recently designated Alamo Square Historic District.

Havens and Toepke designed three buildings included in *Splendid Survivors*; the 1908 Maskey Building, the 1909 Bartlett Doe Building and the 1913 Flatiron Building. Works of Havens no longer standing include the San Francisco Yacht Club of 1897, the San Mateo Elks Lodge, Mission High School, and the old Tanforan Racetrack buildings.

Havens' buildings over the decades may be said to be reflective of their times, including the 1880 Victorian Stick-style residences and the 1890s Queen Anne houses with various embellishments. Undated homes pictured in *California Architect and Engineer* include bungalow, "picturesque," and elaborate Italianate styles. Downtown buildings evaluated in *Splendid Survivors* include Gothic and Renaissance/Baroque ornamentation, "verging on the Art Nouveau." The Flatiron Building is probably his most notable accomplishment and is said to foreshadow the Halladie Building in its cornice. The 1892 Petaluma

Silk Mill may be seen as typical of the 1890s nostalgic return to the past, with Havens selection of the Georgian style being appropriate to the silk mill function.

Havens' death on April 28, 1915, in Kenwood, was reported in that day's San Francisco Santa Rosa, and Petaluma newspapers, and in the May issue of California Architect and Engineer. These obituaries agree in describing Havens as a "pioneer architect," "one of San Francisco's foremost architects in the early days," and one who participated in the rebuilding of San Francisco after the earthquake. (Some also state that he was "school board architect," while others say he was "city architect" for twelve years. Both these designations are inaccurate, though; the former title did not exist, and he held the latter for just one year as architect for the City Hall Board. However, he did build many schools, as listed in California Architect and Building News.)

The Petaluma Silk Mill is not mentioned in Havens' obituaries, nor is it included in California Architect and Building News, although Havens often listed his buildings there. However, Havens' design of the Petaluma mill is documented by a bond dated March 11, 1892, in which the Carlson-Currier Company contracted with a group of Petaluma citizens to proceed "with all reasonable diligence" to complete a silk mill in Petaluma; drawings and plans for the building, dated March 14, 1892, and signed by Havens, J. P. Currier, and Hedges and Paff, the contractors; and the October 19, 1892 Petaluma Courier article naming Havens as the architect and illustrated by Havens' drawing of the building (said to be complete and almost ready to begin production).

Brainerd Jones

"Brainerd Jones, Petaluma architect of the period 1898-1930, designed later additions to the Petaluma Silk Mill. Jones designed many recognized heritage homes in Petaluma and Santa Rosa; these were often characterized as Transitional and incorporated Craftsman detailing and columns. His public buildings are more frequently Classic Revival and include several schools, a downtown business block, the Elks Hall, and the Carnegie libraries in Petaluma and Healdsburg."

Hedges & Paff

"The signatures 'Hedges' and 'Hedges & Paff' on the Havens' plans are those of the contractor. The Paff Brothers appear in San Francisco city directories between 1890 and 1894 listed variously as carpenters, contractors, and architects. Ed Hedges was a Petaluma lumber dealer, and Camm & Hedges Lumber Yard became a substantial local firm. Hedges & Paff had

offices at Hinshaw's New Block on Washington Street in 1891 and in 1892 also built "a \$5,000 residence on his ranch" for H. Mecham."

CHRONOLOGY

The historical record is limited when it comes to providing information about specific changes made to the PSM, as few records exist for changes other than the primary moments in the building's evolution. Fortunately, those primary moments are well documented, so in this key respect the historical record is generous.

There are, in fact, rare occasions when original drawings exist for pre-1906 buildings of the Bay Area, because many of the architects and engineers of that era resided in downtown San Francisco, and so many such documents were lost in the earthquake and fire. While Carlson and Currier's architect also worked out of downtown SF (Charles Havens drawings for the C&C mill are labeled, "C. I. Havens, 55 Flood Build'g, S.F."), we are fortunate, again, that the drawings for the C&C mill were on the premises of the PSM, and so survived the earthquake and ensuing conflagration.

In addition to the original construction, major alterations are documented in the form of historical photos and drawings. We are therefore equipped with the following primary records documenting the building's construction (selected copies of which are attached to this HSR):

- cl892 Construction of C&C silk mill (per 9 sh. untitled architectural drawings by C. I. Havens, Arch., March 14, 1892)
- cl906 1) Fire of April 17, which destroyed the tannery adjacent to the PSM; and 2) Great S.F. Earthquake and Fire of April 18, which damaged the PSM (north) tower.
- cl906 Extension of main building to north, with silk vault at first floor (per 2 sh. of drawings by Brainerd Jones entitled "Addition to Present Mill B'ld'g of Carlson-Currier-Company)
- cl922 Main building south expansion (per 11 sheets of untitled and undated architectural drawings by Brainerd Jones, Arch.)
- cl922 Fire sprinkler system extended, with new water tower addition (previous water tank located on roof above store room at rear of engine room) (per 2 sh. of engineering drawings for Belding Bros. & Co., by Automatic Sprinkler Company of America, Youngstown, Ohio, Sept. 3, 1922)

Each of these documents is identified in an Appendix B to the NRHP record. However, one document identified in this appendix has not been made available: that of a blueprint of the water tower.

Otherwise, aside from several miscellaneous permit applications for work undertaken only very recently, the above listed documents are all that have been located pertaining to the evolution of this property. The only noteworthy contemporary permit is for the 1998 dye house roof replacement with composition shingle.

Nonetheless, and remarkably, the facility has supported 115 years of continuous use as a textile mill, with a subtle change of use — from silk spooling to synthetic/linen/cotton braiding — at about midstream (c1940), yet only three owners:

- 1892-1917 Carson & Currier Co.
- 1917-1940 Belding Heminway Co.
- 1940-2006 Sunset Line & Twine

As a result, the PSM has experienced few physical and material changes. Thus, to look at the 1922 plans for this building is to look at the building much as it stands today, even as we also understand that the interiors underwent change when the most current owner, Sunset Line & Twine, took over the PSM during the 1940s.

Other identifiable changes about which we can suppose dates of their occurrence include:

- c1906 Chimney shortened; and north tower vertical addition and roof reconstruction (no drawings exist for this repair/reconstruction, although it took place in the aftermath of 1906 and, based on historic photos, was completed sometime after the silk vault extension yet before the 1922 expansion)
- c1925 Western 1/2 of 1906 silk vault converted to offices (evidence for this alteration is the 1926 Sanborn Map, which shows the former space of the 1906 silk vault subdivided into offices at the west half of the space, and a vault yet remaining at the east half.)
- c1930 Addition of north entry and conversion of eastern half of 1906 silk vault to offices (evidence for this alteration is the addition of windows at the main building first floor, north end, which had been constructed without window openings in 1906, still had no windows immediately after the completion of the 1922 expansion or by the 1926 Sanborn Map, but by the late 1920s has windows.)

All of the rear outbuildings appear by 1922, and are thus

presumed to date from the original period of construction, c1892, or the immediate aftermath.

Finally, physical changes about which there has been found no evidence of their date of occurrence are the:

- Stucco added to dye house exterior
- Replacement doors and variously altered openings at engine/machine room building and dye house
- West stair removed from machine room and silk vault room entry changed
- Roof drainage assemblies altered

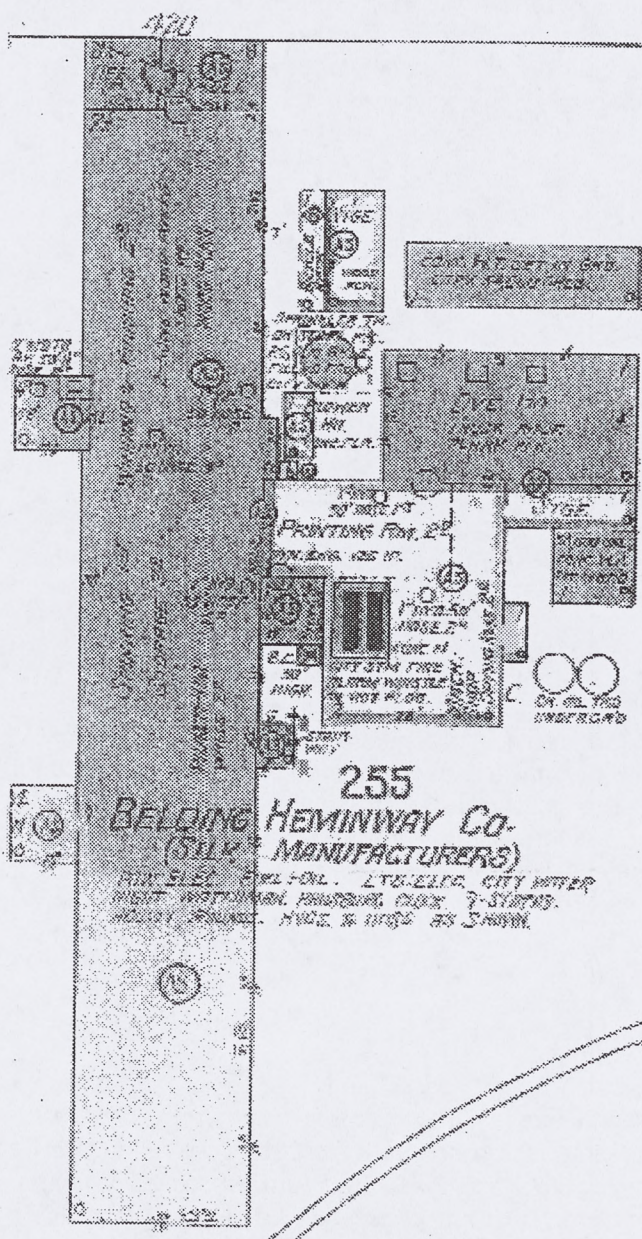


Fig.8: Petaluma Silk Mill
Sanborn Fire Insurance Map, 1926

MILL
Pet
County, California

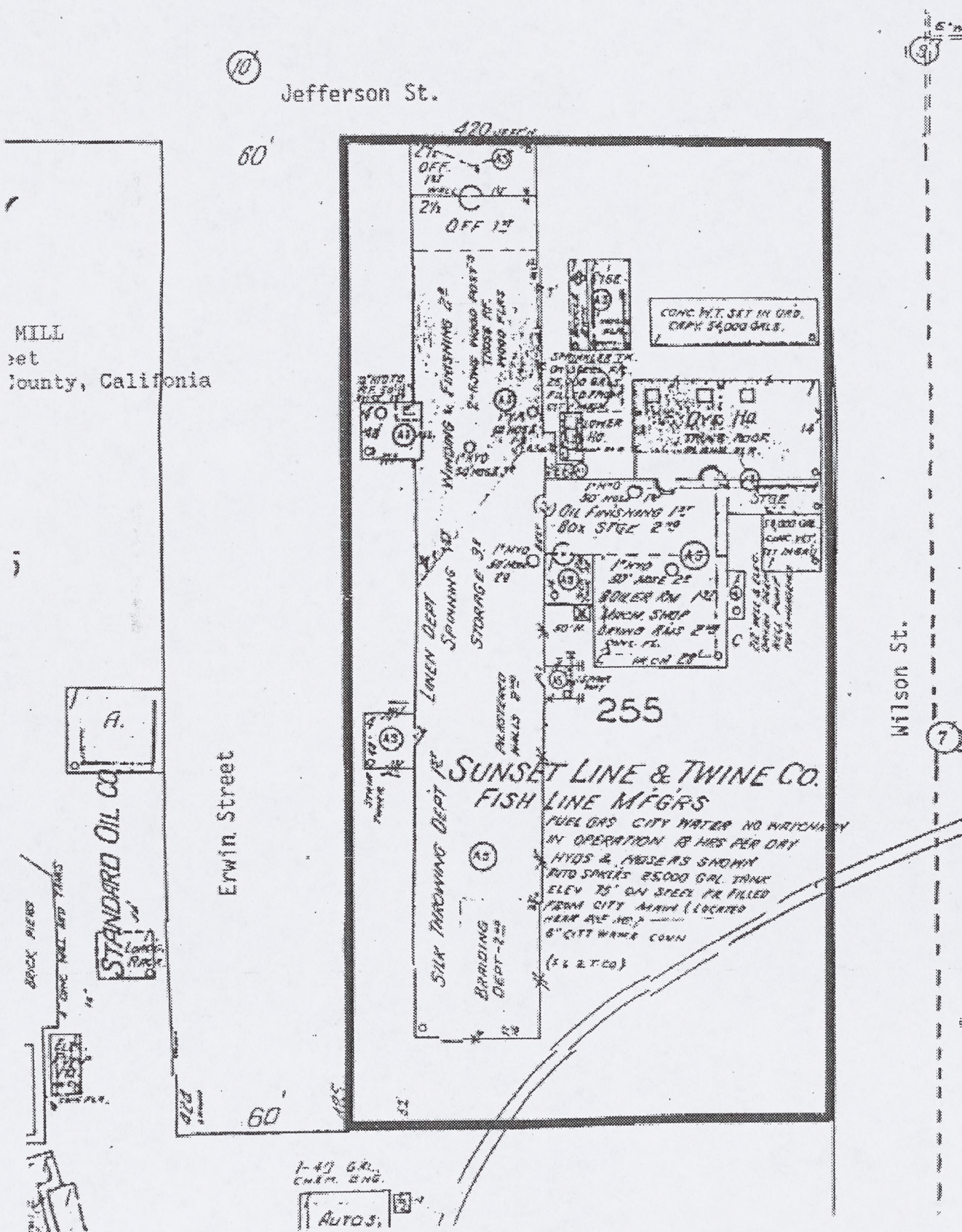


Fig.9: Petaluma Silk Mill
Sanborn Fire Insurance Map, c1950



THE PETALUMA SILK MILL

HISTORIC STRUCTURES REPORT

Fig.10: Petaluma Silk Mill

Front viewed from northwest

HISTORIC PRESERVATION ZONES

Historic preservation zones establish the framework for treatment of an individual property by zoning the property and buildings into logical areas, primarily based on the integrity of original use and design — with integrity meaning that a critical mass of essential uses and physical features are intact and visible — as well as on the degree of public access. The historic zoning of a property seeks to identify the differences between more and less significant exterior and interior areas. Exterior and interior areas are herein divided into four historic zones — Very Significant, Significant, Contributing and Non-Contributing.

An historic resource, whether a district or an individual building, is an integrated whole consisting of site and landscape, building exterior and interior spaces, features and materials. That resources are so considered is not to say that each of those landscape and building entities are equally historic. Indeed, historic properties are typically considered from the outside in. We also look at historic properties from the perspective of public versus private, with greater significance granted to the former due to the understanding that historic resources generally benefit society over-and-above individuals.

One can, therefore, generally conclude that formal and public exterior spaces and building elevations are of

the greatest significance, and that significance recedes towards the rear of a property, as well as towards the interior — increasingly so with more and more utilitarian and 'back of house' uses and their spaces. This method of interpretation parallels the way that landscape and architectural design acknowledge the relative importance of public place and form, resulting in greater formality and consequence at primary public spaces and facades, versus simplification and utility at, for example, service areas, which relatively few might appreciate, and where utility is the expedient.

It is therefore understood that there are degrees of significance within any given historic resource, regardless of scale or complexity. As well, that such degrees may be measured by a general grading system that implicitly identifies exterior elevations, spaces and features as more significant and thus of greater sensitivity than interior spaces.

The intent of historic zoning is to prioritize an historic property by defining zones of greater and lesser historic significance and, therefore, greater and lesser sensitivity to maintenance, alteration, or rehabilitation. Relative significance is important in the context of planning for the future of existing and, especially, historic resources. Giving consideration to the relative impor-

tance of one space to another, or one material to another, allows for the prioritization of individual landscapes, buildings, spaces, elements and materials. It is an attempt to define what is most important, in this case to the potential significance of a resource, and thus what deserves the greatest attention to its preservation. Conversely, designating relative significance allows for the consideration of what is of lesser significance and least sensitive to change, thus suggesting where necessary changes may be appropriately focused.

It is not the intent of these findings to prohibit alteration and additions to this historic resource. All active properties necessarily undergo change in order to maintain uses, or adapt new uses in order to sustain existence.

Historic preservation zones are further described below, followed by plan diagrams applying these zoning principals to the PSM.

Very Significant Zone



Fig.11: Main Building & Tower
Very Significant exteriors

The Very Significant zone consists of the most historically important and intact exterior areas and their identified elements. Very Significant spaces are central to this resource's significance due to the integrity of their original use and design, along with their formality and exposure in the public realm. Very Significant zones are highly sensitive to alteration.

Very Significant areas and elements shall be retained and preserved. At such locations, every effort shall be made to restore elements and materials to match their original locations and forms. Deteriorated materials shall be repaired rather than replaced. Where replacement is necessary due to extensive material deterioration or failure, replacement materials shall match the original materials and forms.

New additions and alterations to Very Significant areas are discouraged but may be allowed if they strictly meet the Secretary of the Interior's *Standards for the Treatment of Historic Properties*. In particular, new work shall not destroy identified historic fabric, and is also recommended to modestly differ from the historic character, elements and material while, at the same time, being compatible. Where past alterations have been made that are identified as non-historic, such alterations may be removed or further altered based on the same standard of treatment.

Significant Zone



Fig.12: Engine/Machine Room Building
Significant exteriors

Exterior and interior areas of secondary importance to the overall historic resource, or of lesser public prominence than Very Significant zones, or potentially very significant spaces that have suffered past alterations affecting historic significance, are herein identified as Significant.

Like the Very Significant zone, Significant spaces and areas are recommended to be retained and preserved, or repaired rather than replaced, and missing or altered historic features may be restored. Whereas preservation is the goal within Very Significant zones, rehabilitation is recommended within Significant areas.

Contributing Zone

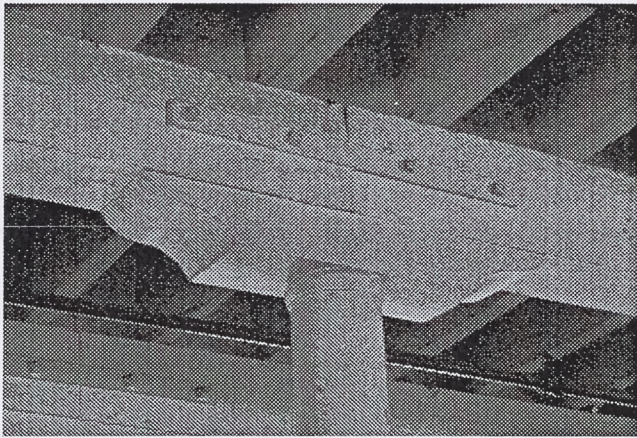


Fig.13: Main Building Interior - Contributing
Contributing interior

The Contributing zone consist of interior areas that are original, substantially intact, and therefore contribute to the overall historic resource, but were and are neither central nor public.

Contributing areas are recommended to be retained wherever possible, and required alterations and additions shall be designed to be compatible with existing spaces, elements and materials. New program requirements may otherwise be introduced into these spaces.

Non-Contributing Zone

Non-Contributing areas are primarily interior spaces that are original to the resource, but are of no historical importance, or potentially contributing spaces that have been so altered that their historic identity is absent. Non-Contributing zones are not specifically limited by preservation recommendations. Their uses and elements may be altered or changed, but not without consequence to the historic property and, therefore, the *Standards for Rehabilitation* generally apply.

SUMMARY OF SIGNIFICANT FEATURES

The following is a summary of significant materials and assemblies (without identifying non-historic materials):

Exterior

- Brick masonry
- Metal siding and trimwork
- Metal roofing and roof drainage assemblies (including spires, ornaments, wood flagpoles)
- Wood windows, casings, sills
- Wood and metal roof cupolas
- Metal windows
- Steel water tank structure
- Ornamental metals
- Wood doors (some w/metal cladding)
- Concrete foundations (parge coated), landings, docks
- Painted signage
- Ivy

Interior:

- Brick masonry (exposed inside face of exterior walls)
- Original brick masonry cross wall at first floor, north end of building
- Wood posts and beams
- Wood timber and framed floor and roof structures
- Wood stair structures
- Wood doors
- Steel framing components (iron lintels, straps plates)

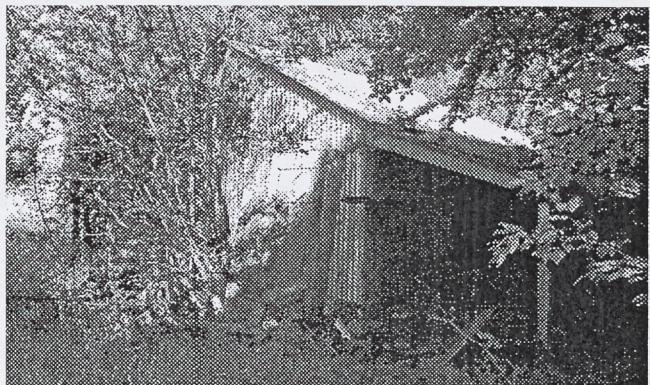
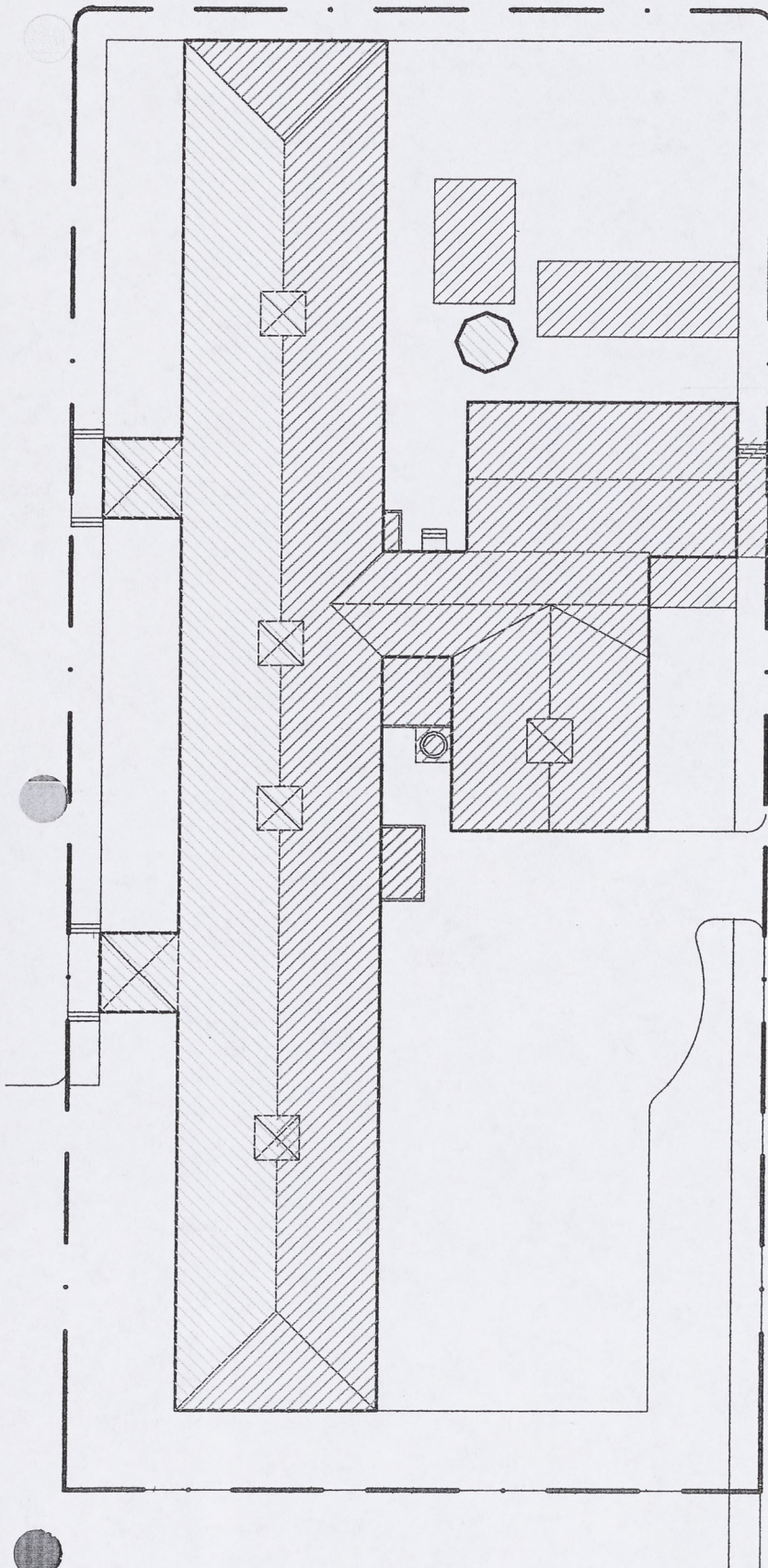



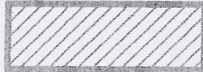


Fig.14: Shed at north yard
Non-Contributing structure

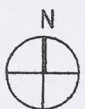
Petaluma Silk Mill

Historic Structures Report



Historic Preservation Zones

-  Very Significant
-  Significant
-  Contributing
-  Non-Contributing



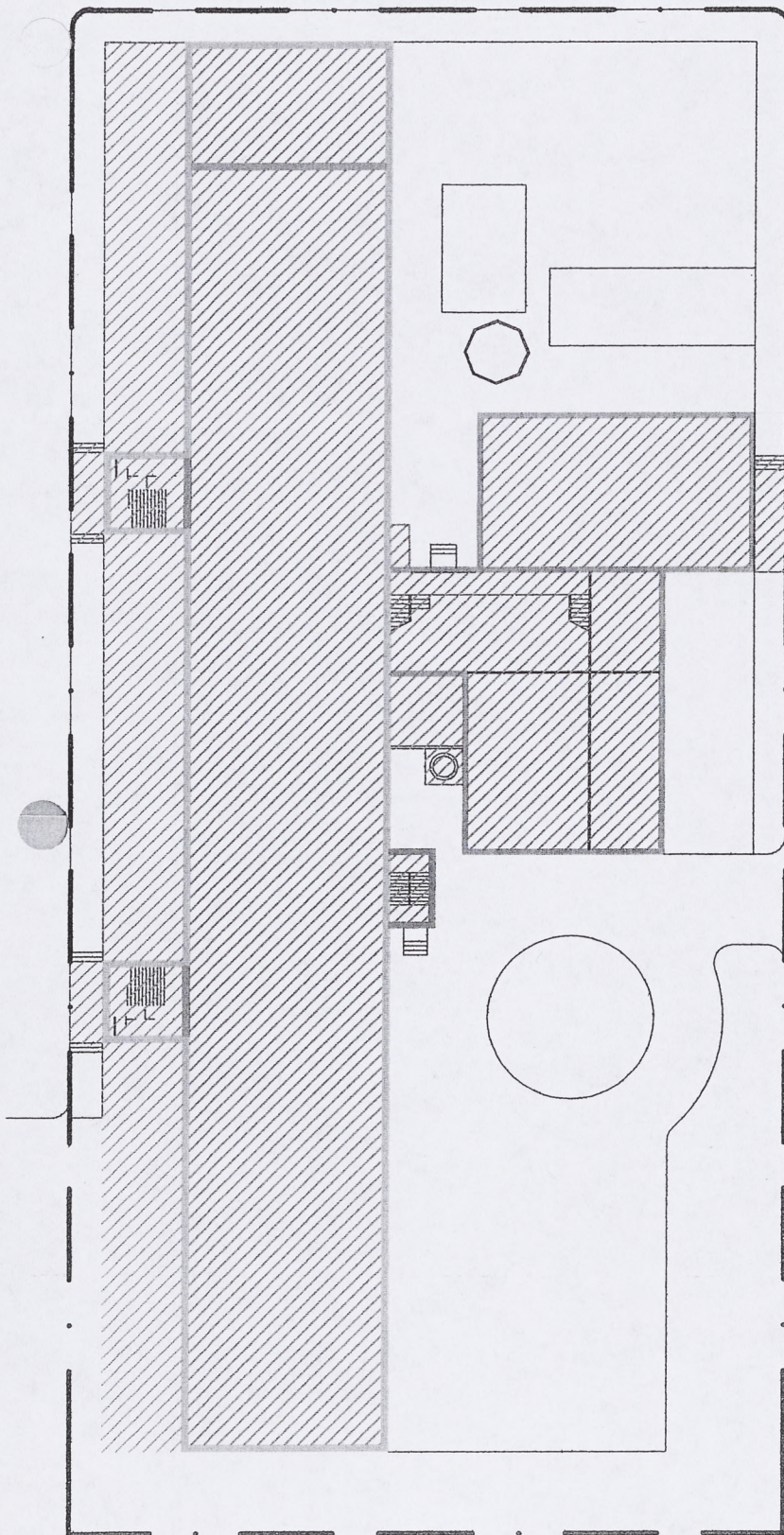
Roof Plan

Not to Scale

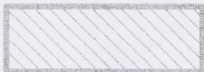
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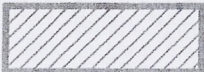
Petaluma Silk Mill


Historic Structures Report




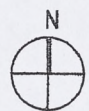
Historic Preservation Zones

 Very Significant

 Significant

 Contributing

 Non-Contributing



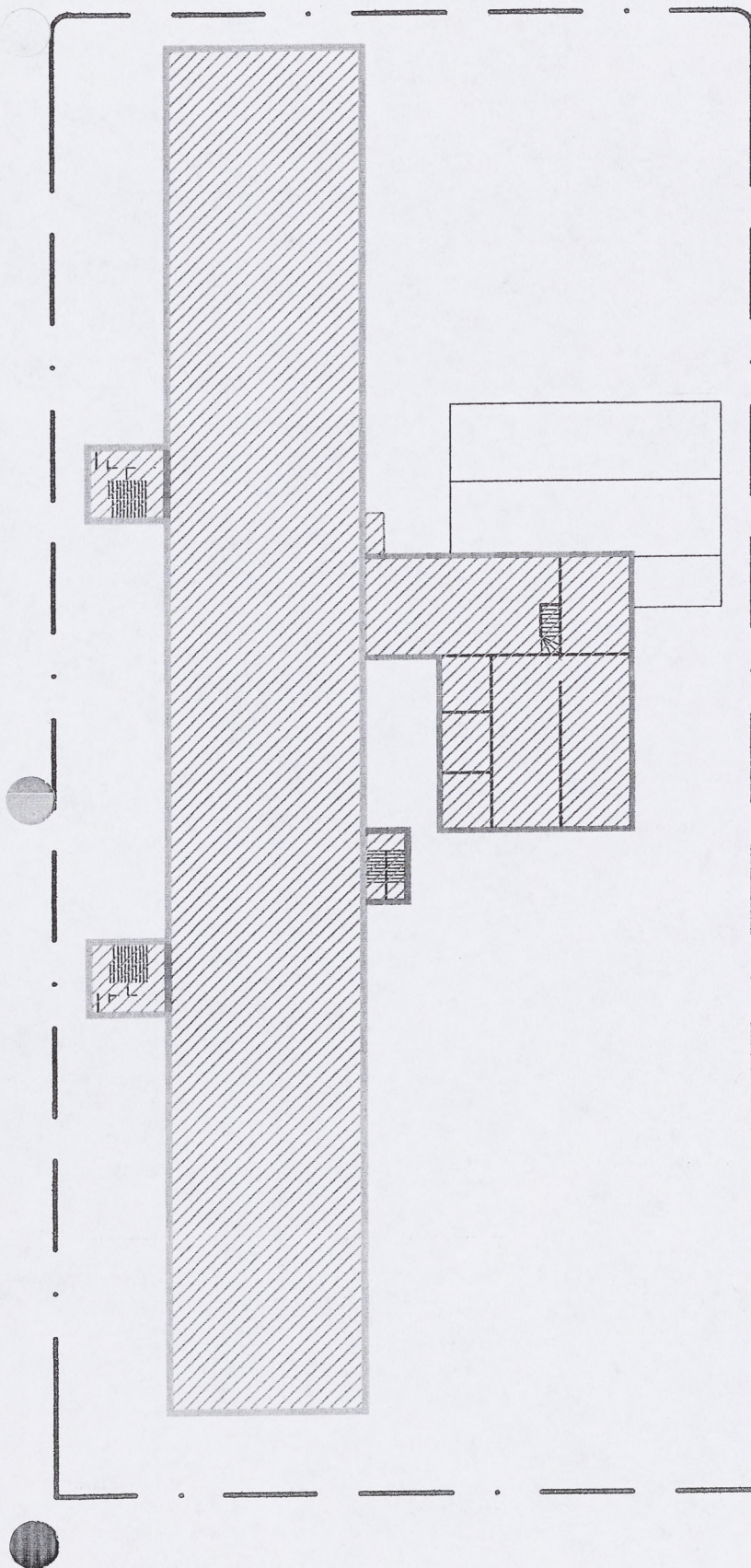
First Floor Plan

Not to Scale

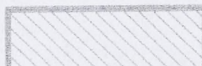
Sheet 3

Petaluma Silk Mill

Historic Structures Report




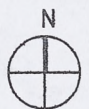
Historic Preservation Zones

 Very Significant

 Significant

 Contributing

 Non-Contributing



Second Floor Plan

Not to Scale

Sheet 4



THE PETALUMA SILK MILL

HISTORIC STRUCTURES REPORT

Fig.15: Petaluma Silk Mill

Aerial View, c2006 (north is up)
(Courtesy Google Earth)

DESCRIPTIONS

This section combines descriptions by Lucy Kortum from the National Register record, with supplemental descriptions where the NR record is limited. The NR text is in *italics*, and supplemental text is unitalicized and/or bracketed. Subtitles are also added in order to clearly distinguish the primary components of this overall resource. [Additional, detailed descriptions are provided in the Recommendations section of this HSR.]

PSM Main Building Exterior

"The Petaluma Silk Mill is an industrial complex adjacent to the old waterfront area of Petaluma [see aerial view]. The two story brick building is rectangular under a low hipped roof of sheet metal with standing seams. A pair of three-story square brick towers stands forth from the long many-windowed facade. Each tower has double doors at ground level and two windows above and each is topped by a pyramid roof, also sheet metal with standing seams. The original building, designed by pioneer San Francisco architect Charles I. Havens in 1892, had a central tower and was half the length of the present structure. A silk vault, boiler plant, dye room, and other outbuildings not visible from the front, were also designed by Havens in 1892. Dimensions of the main building were 160' x 45'. The early extension of one wing, and the 1922 construction of a second tower and wing, increased the dimensions to 310' x 45', while maintaining styling compatible with the 1892 building. Subsequent alterations are minimal.

The main building was built in two sections: the original 45' x 160' mill with its central tower is now the northwest section of the building. The southeast portion replicated the earlier tower in 1922, creating the present two-towered symmetrical appearance. Viewed from the front, the building's dominant towers are echoed by four square metal cupolas, with horizontal louvers in each face and pilasters at the corners, which line the roof ridge. [A footnote is here provided that reads: The original tower had a steeper pitch when built. It was damaged in the 1906 earthquake; when rebuilt, several additional courses of brick were added and the roof pitch was lowered. The 1922 tower repeats the post-1906 form of the earlier tower modified by earthquake repairs.] The pyramid cupola roofs, of standing seam metal and metal shingle, repeat the slope of the adjacent towers. The cupolas are topped by knobbed finials, and the towers by 30' flagpoles. A horizontal beam projects from the original tower below the roofline and was for lifting materials to the second floor.

Two rows of windows surround the two story building. They are double hung, wood framed, and 18-lighted, under arcs which fill the space between the rectangular windows and the low arc of brick coursing above them.

The brick is laid in a simple running pattern, broken by a series of brick courselines which encircle the entire building including the towers. Under the eaves, tiers of three bricks, spaced at brick length intervals,



Fig.16: PSM Main Building, West (Front) Elevation

Detail of 1922 brick cornice/anchor plate & metal gutter above

create a dentil effect [fig.16]. Broad courselines, three brick widths of running pattern projecting slightly from the surface, connect the windows of each row above their midlines and then rise to create, with a radiating pattern of three vertical brick ends, a flattened arch above each window. Narrow courselines of extended vertical brick ends surround the building immediately under each row of windows. Another projecting narrow brick courseline separates the building from its low cement foundation.

Window openings in the original tower are double-shuttered, one with wood, the other with metal. Window openings in the new tower are 16-lighted with wood frames. Three windows on the outer side of each tower, and two windows on the inner side, indicate the rise of staircases within the tower. Tower doors, which open onto low cement platforms, are double with opaque glass above low metal panels. The entrance to

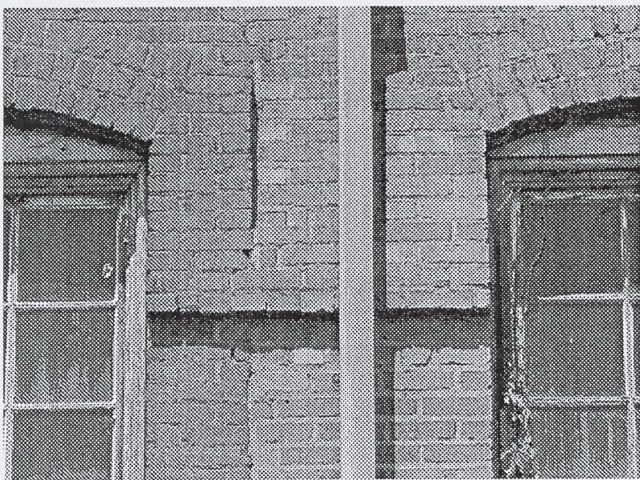


Fig.17: PSM Main Building, West (front) Elevation

Joint between 1892 brick work (left) & 1922 brick work (right)

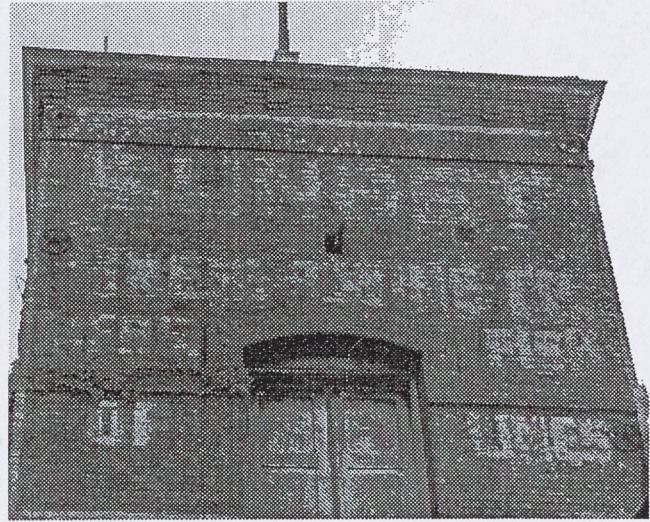


Fig.18: PSM South Tower, West Elevation

Detail of 1922 brick cornice/anchor plate & metal gutter above

the original 1892 building was through its central tower door; neither tower is used as a primary entrance today.

A slight difference in brick color [fig.17] identifies the stages of the building's construction: the central tower and two wings of the 1892 building, the addition to the north after 1906, and the tower and south wing added in 1922. Another slight color variation on either side of the original central tower, between the two rows of windows, marks the site of the painted "Carlson-Currier Co. Silk Manufacturers" sign visible in early pictures. Today, above and around the upper window in each tower a painted black square, with white lettering and border, reads: SUNSET LINE & TWINE CO. MFRS OF FISH LINES [fig.18].

Two types of metal end-washers mark the end points of steel tie bars. Those on the main building are square with a raised 4-pointed star, those on the towers are round with a 5-pointed star. [A third type of washer secures the brick cornices, see fig. 14.] Their irregular placement, on both old and new wings, probably indicates that they were added after the last major addition to the building. Gutter tie-downs on the older-portion of the building indicate that the roof of that section is original but that all gutters probably date from the 1922 addition. Visible from the front also are the tops of two rear structures: a round brick smokestack and the metal framework which once supported a 65' water tower.

Proceeding counterclockwise around the building, the south elevation is the end of the 1922 addition [see fig.19]. Four windows on each floor are paired and high-lighted with metal end-washers, both 4- and 5-pointed, above and between the window pairs.

Also from the south may be seen a two-story square projecting tower added with the 1922 wing, and



Fig.19: PSM Main Building & South Tower
South Elevations

some of the original rear buildings. A two-story brick structure, the "old silk vault," is connected to the main building. Behind and along side of it, also connected to the main building and so arranged that they appear to be a "T," are two, two-story corrugated metal buildings under low gable roofs -- the old engine, coal, and boiler rooms.



Fig.20: PSM Main Building, North Elevation
North Entry

The north end of the main building is the post-1906 "new silk vault" addition. The silk vault occupied the first floor and was windowless with 26" brick walls on all four sides. Four second story windows are evenly spaced, not paired as on the end of the south wing. In 1922 when the second tower and new wing were added, windows and an outside door were cut in the thick walls and the building's primary entrance moved to the north end. [Historic photos immediate to the completion of the 1922 addition show the north end of the east façade without new windows, as of yet. The 1926 Sanborn Map (fig.8) shows the western half of the former silk vault as office, while the eastern half remained a vault. The 1941 Sanborn Map (fig.9), by which time Sunset Line & Twine had taken ownership, shows the general offices as currently configured are indicated. Thus, SL&T may have been the authors of the north entry and its openings] Two wide plate glass windows are lettered in gold, "Sunset Line & Twine Company." Between them, the entrance is deepset and is reached by cement steps which begin flush with the building; there is no exterior porch. The door itself is wood with full glass panel and small vertical panels on each side below a transom extending the width of the recessed entrance [fig. 20].



Fig.21: PSM E/MR Building, West Elevation
EMR Building cupola (above) and brick smokestack (right)



Fig.22: PSM E/MR Room Building
South Elevation

Engine/Machine Room (E/MR) Building Exterior

At the rear (east) of the main building is an attached, c1892 wing consisting of a two-story, L-shaped (in plan), wood frame and metal clad structure. The long leg of the L stands perpendicular to and abuts the rear of the main building, and originally housed the engine room with storage and tank rooms above. The toe of this L-

shaped building projects southward from the engine room structure, and originally housed the machine rooms, with boiler and coal rooms below and work rooms above. The exterior of this wing is all metal, including corrugated metal siding and trim, and a tin roof with a ventilation cupola (fig.22). What few windows and doors remain are of wood, though many windows have been sealed with metal panels. This wing appears very original inside, and though this description might render this structure as purely utilitarian, the fact is that this wing is made picturesque by the use of trimmed, gabled end walls, and the ornamental, rooftop cupola.

Dye House (DH) Exterior

Extending eastward and attached to the north side of the rear wing is a rectangular, timber frame and masonry clad structure housing the dyeing facilities.

The dye house is one-story with a gabled roof and interior space. Its original exterior brick has been stuccoed over, in a rough manner, at its three exterior wall — north, east and west. Its south wall is partially enclosed within an attached lean-to structure, and partially against the engine/machine room structure (fig.23).

Its roof has, likewise, been altered, with the substitu-



Fig.23: PSM E/MR Building (left), Dye House (center) & Water Tower (right)
East Elevations

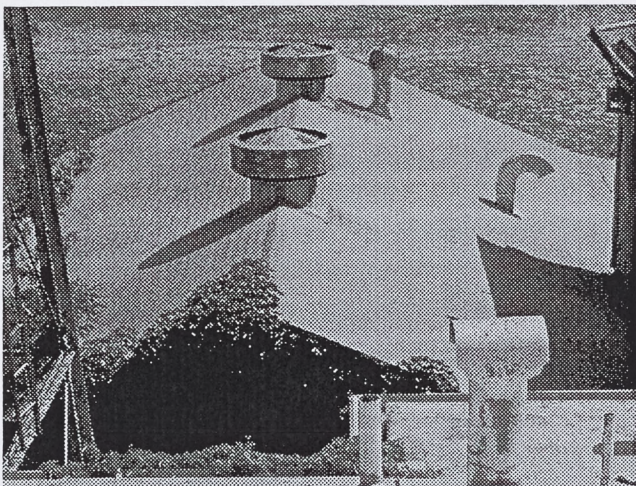


Fig.24: PSM Dye House, Roof

From main building roof, showing composition shingle at DH

tion of a composition shingle roof for the original tin roof. The dye house also originally had a set of four skylights, corresponding to its four interior bays, on the north sloping roof.

The north exterior wall has seven window openings, the west wall a set of central doors, and the east wall another set of central doors with window openings at each side.

As noted in the NR record, *the dye house may be reached through the other outbuildings, and it also has a loading dock to the street.*

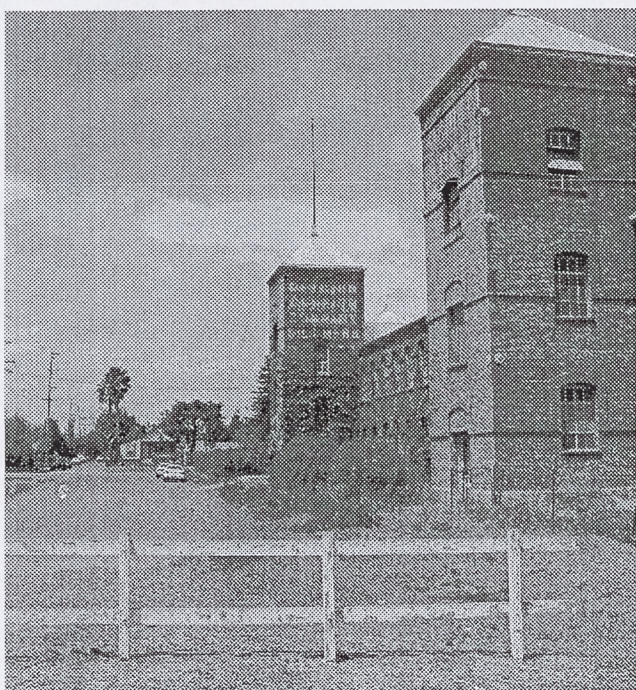


Fig.25: PSM Main Building, Site

Irwin Street (west) frontage



Fig.26: PSM Main Building, Site

Jefferson Street (north) frontage

Setting and Site

The front (west) of the building faces a short, sixty foot wide and dead end public lane, Erwin Street, with a shallow, formerly landscaped and now overgrown yard separating the face of the building and the street, and such that the entrances to the two towers are from door stoops directly off the street. This street once connected through to the south, yet has long since dead ended just beyond the south extent of the PSM [fig.25]. Irwin Street nevertheless creates an urbane setting in the form of a streetscape whose curb and sidewalk pass close to the fronts of the towers and its building entries. And in the spaces between the towers, the front wall of the main building and the sidewalk, front yards are also formed.

The north end of the main building also directly faces a street, Jefferson Street, and is separated by only the width of a sidewalk [fig.26]. Today, this elevation is, in fact, the entrance to the building, and provides its street address — 750 Jefferson. And the main building's south end faces an undeveloped yard, with the rear of an adjoining commercial property within sixty feet [fig.19].

Around the back of the PSM is another, and far less formal story. Here we find yards given over to industrial activities, with utilitarian building structures jutting out from the body of the main building and from each other. Without these various appendages and outbuildings, the rear of the main building would match its front description. But that is as far as resemblances go.

Projecting to the east extent of the site, this cumulative wing creates two distinct yards, one north and one south. Within the north yards, and within the circumstantial spaces between the main building and parts of the wing, stand several accessory structures, as well as a water tank structure that rises high above the site [fig.27]. A loading dock also wraps around the east and



Fig.27: PSM Site

North yard looking at east (rear) elevation of MB

north sides of the dye house structure, although the length of this dock at the south side of the wing has been enclosed for storage, and which, in turn, attaches to a low concrete structure containing a cistern. The two low cement reservoirs with corrugated roofing on either side of the dye house provided storage for rainwater used for dyeing the silk. The south yard is, otherwise, largely an open parking lot [fig.28]. In this yard, a large palm tree stands in the middle of the lot and forms an island around itself. This island was illustrated by Brainerd Jones in his Yard Development plan of 1922, in which the circle is shown with benches around its perimeter; a central tree is shown — presumably the present palm, although the description is not legible — and the current driveway location is also indicated. The rail spur that once ran across the southeastern corner of this yard is also shown in Jones' plan, but there is no apparent trace of that spur except on such plans and maps. Grass borders are otherwise extant along the foot of the east wall of the main building, and around the south and east fence lines.

Another interstitial space between the main building and the south side of the east wing is partially infilled with a structure housing a vault room at the first floor, above which a cylindrical chimney shaft rises above the wing.



Fig.28: PSM Site

South yard from across Wilson Street

Interior

Despite its imposing presence and scale, the Old Silk Mill is a building of few interior parts, what with large areas of each floor given over to manufacturing uses. Including, within the main building, a general office area at the north end of the first floor, and two manufacturing floors with few spatial divisions, and across the top of which lies, for the full length of the building, an open attic.

The rear wing houses several additional production areas within its discrete structural parts, including coating and waxing rooms within the two main spaces of the wood frame/metal clad portion of the building, with the aforementioned vault room and, finally, a dye room in the whole of the masonry structure.

At the interior, aside from the plethora of textile

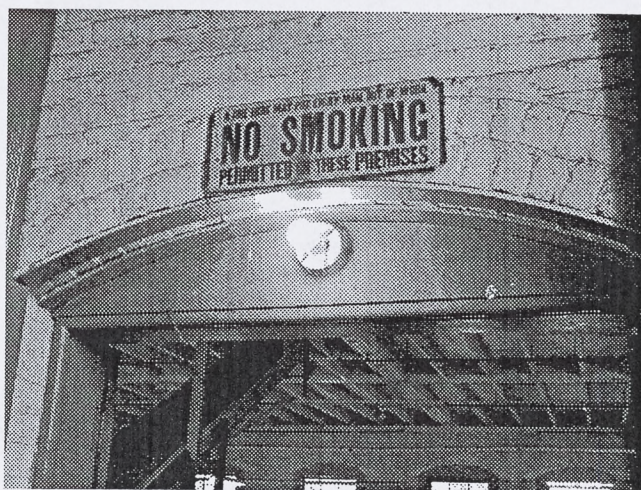


Fig.29: PSM Main Building, First Floor Interior

Steel lintels and signage

equipment, one's impression is predominantly of brick masonry, yet with wood and timber framed floors and roofs or, in the wing, of concrete floors. Wood stairs, wood floors and doors, and wood paneled ceilings reinforce the building's material unity and simplicity.

And yet, upon closer scrutiny, a range of supplemental interior details exist, including, for example, the steel lintels that assist the arched masonry door openings [fig.29], as well as the various metal straps and rods that literally tie the masonry and wood structures together. For that matter, the web of sprinkler piping adds, in a very functional way, to the overall interior design character. Although wood windows are the norm, there are a handful of steel windows, in particular in the south tower. And there is a distinctive rolling, galvanized clad fire door separating the main building from the wing [fig.6]. Thus, the overall building is more complex than its immediate impressions, yet even then, the building's contributing interior features fall within a narrow range.

The NR record concludes with the following descriptions of interior details:

"From the [first floor north] office [fig.31] another door leads through the interior 26" brick wall to the original building. There, beyond some partitioned office space, the mill workspace extends the length of the

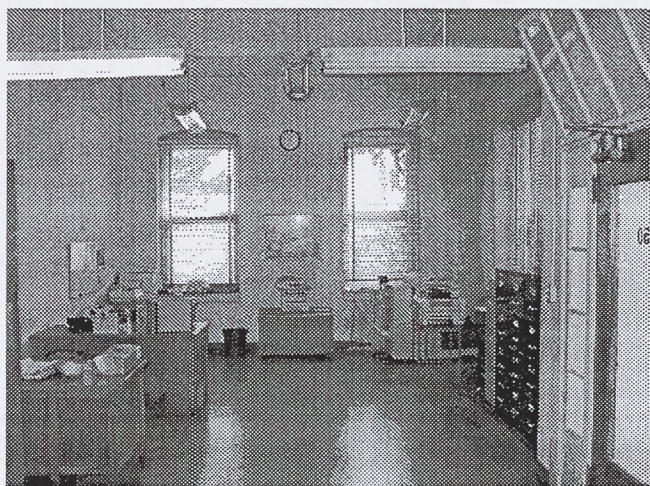


Fig.31: PSM Main Building, First Floor Interior
First Floor offices & north entry (right)

building. Original construction details are visible. Two rows of slender turned oak bolsters [the 1922 specification identifies the columns as Oregon Pine] reach 12' to the ceiling where floor joists of the second floor are visible [see fig.30]. Banks of electrically powered machinery for braiding cord, and a few pieces of occasionally used older machinery, are set upon original 3 1/2" tongue and groove floors. The inner brick wall is visible and, reflecting the outside detail, wooden lentils are



Fig.30: PSM Main Building, First Floor Interior
Turned columns, bolster and beams



Fig.32: PSM Main Building, Second Floor Interior

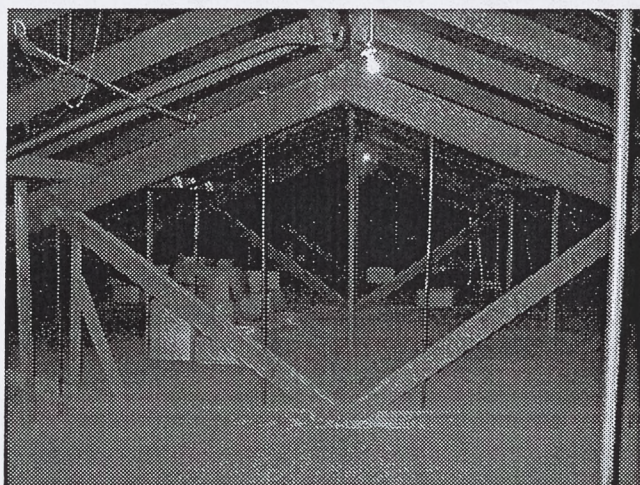


Fig.33: PSM Main Building, Attic Interior
Timber trusses and roof structure

slightly arched above the flat tops of the windows [fig.32].

Both second floor and attic run the length of the main building; the second floor [fig.32] is used for packing and storage of materials and the attic [fig.33] is used for miscellaneous storage. Air circulates through the cupola vents into the attic [fig.34]. A sprinkler fire extinguisher system is located in the attic and throughout the building.

Towers are open and provide vertical access. Construction details of the two towers vary. The older tower has a notable metal railed staircase [the north tower stair is all wood], in contrast to the utilitarian cement [steel with cement treads] staircase of the newer tower. Within the older tower may be seen evidence of the addition of nine rows of brick just under the eaves. Earliest pictures show a steeper pitch to the central tower pyramid roof; at the time the pitch was reduced, the tower itself may have been heightened.

The old silk vault, entered from the main building, is now primarily used for storage. Again the inner brick wall is visible, and the triple vaulted ceiling is also brick. Connecting engine, coal, and boiler rooms now provide additional work space. Floors here and in the dye house are cement. Original brick walls of the dye house have been cemented over. Some original fixtures remain and the building still houses some dye related activities, in addition to miscellaneous storage. The second stories of the outbuildings has been adapted to provide modern cafeteria and lounge facilities.

Landscaping is minimal with grass and a few small trees in front. Ivy and Virginia creeper cover much of the older portion of the building. A simple low wire fence extends from the tower entrances across the width of the property. Cyclone fencing defines the border

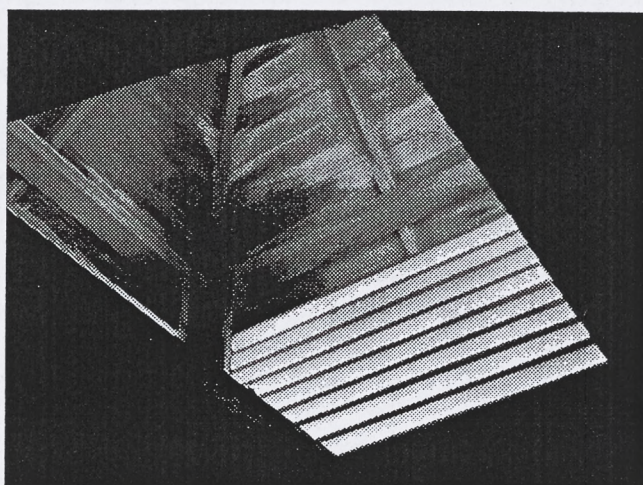
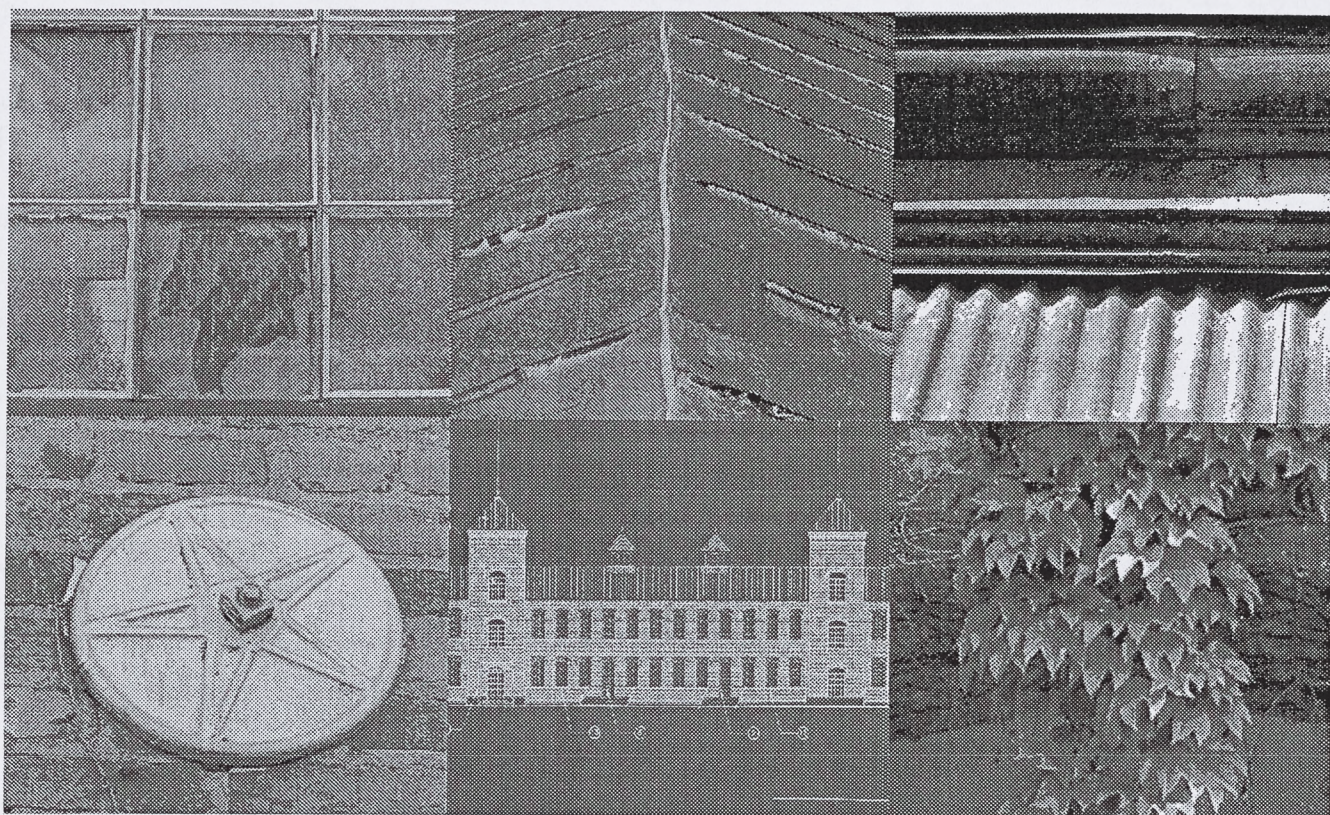


Fig.34: PSM Main Building, Attic Interior
View into roof cupola

shared with commercial property to the south, and extends around the rear. There, space between the new wing and projecting outbuildings is unpaved and used for loading and parking and also contains an imposing Canary Island palm tree. Similar space behind the older wing is enclosed and used for miscellaneous storage."



Fig.35: PSM Dye House, Interior
West entry door



PETALUMA SILK MILL

HISTORIC STRUCTURES REPORT

Fig.36: Petaluma Silk Mill

Miscellaneous details (clockwise from top left): Wood window; Metal roof; Metal siding; Iron plate; Project elevation; Ivy

RECOMMENDATIONS

This HSR section evaluates and documents treatment recommendations, including:

- General recommendations
- Recommendation specific to a proposed project
- Recommendations for the treatment of historic materials and assemblies

General Recommendations

In addition to each set of selected recommendations, the following general recommendations apply to the care and repair of the historic building.

1. The work discussed herein is intended to maintain and preserve the historic setting and structures of the Petaluma Silk Mill property. All work proposed must be undertaken by persons, whether professional or tradespersons, with fore-knowledge of the extent of the historic property and its identified buildings, including their individual features and elements.
2. To the greatest extent possible, identified historic materials, elements, assemblies and equipment should be retained, repaired and reused in their original locations. Where replacement is unavoidable, replace the identified existing historic materials and assemblies "in-kind". The phrase "in-kind" means the provision of materials and elements to exactly match the existing materials and elements to be replaced.
3. Alternate materials are acceptable for the repair and replacement of identified historic materials and elements in concealed locations, so long as the alternate material or element matches characteristics of the existing in all other respects.
4. Prior to undertaking repair and alteration work, a detailed survey should be undertaken identifying the extent of historic materials which may be affected by the proposed construction work. This survey should include the identification of historic materials and elements which will require removal, in part or in whole, and the extent to which such materials can be selectively removed and salvaged for reuse.
5. Maintenance and repair techniques and procedures

dures require the testing of all proposed applications to determine the efficacy of the repairs and their compatibility with original materials. Repair materials and procedures should be carefully modified to best meet the requirements of each required repair application.

The Secretary of the Interior's Standards for Rehabilitation

As required by City ordinance (Petaluma Zoning Ordinance Article 17, Sec.17-507), proposed projects that will affect a designated historic resource listed on the California and/or National Registers must comply with the U.S. Secretary of the Interior's *Standards for Rehabilitation of Historic Properties*. The ten rehabilitation *Standards* are:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and

preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in a such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Each of these ten *Standards* apply to a proposed adaptive reuse project, with the overall intent being to minimize change to identified character defining materials, features, spaces, and spatial relationships, per the project and material recommendations that follow.



Fig.37: Petaluma Silk Mill
South tower, west elevation

PROJECT RECOMMENDATIONS

The following section identifies historic resource issues specific to a proposed project, and is based on the evaluation of several progressions of planning and design documents, including:

- A preliminary design set by Anand + Associates, Architecture & Interiors, entitled "The Old Silk Mill Building," dated January 2006, and consisting of 6 drawings sheets (00, A0-A4).
- A progress design set by Berger Detmer Ennis Architects, Stephanie McAllister Landscape Architecture, and Steven J. LaFranchi & Associates Civil Engineers, dated 11-07-06, and consisting of 27 architectural sheets, 2 landscape and 5 civil.

In general, the project calls for the adaptive reuse of the PSM building and site. It would convert the current manufacturing-related structure and uses to a residential facility with multiple dwellings.

In the main building, there would be some 24 flat units at the 2 existing floor levels, with single-story units at the first floor and, by incorporating the existing attic, 2-story units sharing the second and attic floors.

The former engine/machine room building would house another 4 units, 2 per floor. The central portion of this wing would house communal uses, including a lobby. Serving to connect the main building and the engine/boiler houses, the connecting lobby and stair hall would also provide primary egress to and from the building from both north and south.

Finally, the dye house is proposed to be adapted to two loft-type units on two levels — at the existing first floor, and at an upper level that would be added within the roof space and open to below, as a mezzanine.

The project would retain all of the identified, primary parts of the historic building, including the main building, and the engine/machine room building and dye house. The project would also retain the water tank structure and the base of the brick smokestack. Specific, exterior alterations to the identified historic structures proposed for adaptation to these uses include:

Main Building:

- Removal of exterior landing at the south tower
- Removal of east stair tower
- Alteration of existing window openings for installation of new exterior doors, 13 total
- Removal of the existing north entry
- New window and door openings at what are

presently interior walls where the silk vault is being removed

- Replacement of louvers with window units at the cupolas

Engine/Machine Room Building and Dye House:

- Removal of the masonry smokestack
- Removal of the silk vault
- Replacement of round louvers with window units (engine/machine room building and dye house)

Water Tank Tower:

- Installation of a replica tank atop the existing tower

In addition to which, proposed exterior additions directly to the historic structure include:

Main Building:

- New entry landing, stairs, ramp and canopy at north tower
- New roof "cricket" connecting the south tower to the main roof

Related new construction is also proposed, including:

- Two, new residential buildings to be located in the existing north and south yards, including a new, underground parking garage below the south yard

Finally, a range of site improvements are proposed:

- On grade stoops and entry spaces across the front (west) of the main building, including landscaped edges defining these spaces
- Raised patio spaces across the rear (west) of the main building, including low enclosing walls
- Landscaped spaces at the building frontage and at the existing Sunset Park, including a new surface parking lot
- Landscaped spaces between and surrounding the new and existing structures at the rear yards, including surface parking at the east side of the engine/machine room building

Whereas proposed exterior alterations and additions to the historic structures are intentionally minimized, relatively extensive interior alterations are proposed in order to convert the buildings to their new residential use, which will require the subdivision of what are largely open interior spaces in order to create individual

dwelling units. Existing interior spaces are herein identified as contributing. Alterations to the contributing interior features, materials and assemblies include:

- Replacement of wood floor assemblies throughout
- Removal of wood staircases (at main building towers and at engine/machine room building)
- Partial removal of the main building's second floor finished wood ceiling/attic floor assembly

Selective Protection

In the context of historical building rehabilitation projects, selective protection actions are required throughout the planning, design, documentation and construction processes. During the planning and design stages, selective protection actions are specific to identifying what is significant about the resource, in so doing establishing a list of historical forms, features and materials that are recommended to be protected throughout the remainder of the process, including during design, when the intention of retaining the identified elements and assemblies begins. This HSR thus initiates required protection measures by identifying the historical character and characteristics of the historic structures. Identified historic materials and assemblies include:

Exterior:

- Brick masonry
- Metal siding
- Metal roofing
- Wood windows, casings, sills
- Wood roof cupolas
- Steel structure (at water tank)
- Ornamental metal wall plates, spires, roof ornaments, flagpoles....
- Metal trim work at roofs and windows, including cornice/gutter
- Wood doors (some w/metal cladding)
- Metal windows
- Concrete foundations (parge coated), landings, docks
- Ornamental metal foundation vents
- Painted signage
- Ivy

Interior:

- Brick masonry (exposed inside face of exterior walls)
- Original brick masonry cross wall at first floor,

north end of building

- Wood posts and beams
- Wood timber and framed floor and roof structures
- Wood stair structures
- Wood doors
- Steel framing components (iron lintels, straps plates)

During design and documentation efforts, specific protection requirements are recommended to be furthered by the development of historic building protection plans and specifications. Finally, during construction, protection measures take physical form – with the use of identification signs and physical barriers – but management and procedural processes dedicated to protection measures are of equal importance.

The bottom line of these measures is that the subject property is a bona-fide historical resource. As such, many of its characteristic forms, features and elements must be considered irreplaceable, and thus invaluable. A lapse in protection efforts can mean the irreversible loss of significant historic fabric.

Selective Protection – Recommendation

The proposed project will adaptively reuse the existing PSM buildings, converting them from an industrial use to a residential use. In the process, the PSM buildings and site will experience comprehensive construction activities, which will require the design and implementation of protection measures.

At the outset of this project, selective removal and demolition of building equipment, fixtures, and selected assemblies will be required. During these operations, several degrees of protection are recommended:

- Protection of an historic building begins with identifying and understanding what is most significant about the property, and then attempting to control access to the most significant areas. For example, at the PSM, the main building's front (west) facade and towers are identified as very significant. Therefore, construction access should be limited at the front of the building, and prohibited at the towers, except for work specific to those areas.
- Any and all existing parts of the building that are identified to remain during the course of construction, and that have been identified as historically significant, must be protected from physical damage and deterioration. Such threats include the physical damage that can occur as a matter of course on a construction site.

For example, openings being used for construction access are threatened by the movement of equipment and materials. Wherever construction access is to be provided, physical barriers are necessary to protect historic material in the vicinity.

- Fire and water damage are also serious threats to historic structures during the course of construction. Protection measures thus include fire protection, and temporary protection against inclement weather during those periods when the building is temporarily exposed.
- Protection measures also extend to salvage activities, and in particular where historic materials, finishes, or assemblies are proposed to be removed and reinstalled, and likewise when an assembly will be removed and replicated. Such salvage activities must effectively document and track what has been removed.

The following procedures are recommended whenever the removal and reinstallation or in-kind replacement of historic materials, elements and assemblies is required:

- A photographic record documenting the existing condition at all locations where historic materials and assemblies are required to be removed.
- A plan for the removal and salvage of historic materials and assemblies, at a minimum indicating their sizes and locations, order of removal, schedule of removal, storage requirements, etc.
- Method of tagging or marking to specifically identify each removed piece or element and its exact location, so that reinstallation can occur.
- Methods for protecting, storing, monitoring and tracking each piece or element while removed from its original location, including schedules and tracking forms.
- Dimensioned drawings where removal of historic building and structural materials and assemblies are to be removed and reinstalled or reconstructed.

Selective Demolition

Selective demolition refers to actions undertaken, during construction, to remove existing construction from the building and site. (The term selective is used in the context of existing buildings, where a great deal of the existing construction will not be removed.)

Selective Demolition – Design Proposal

The range of proposed selective demo includes the:

- East stair at the main building
- Silk vault and brick smokestack located between the main building and the engine and boiler room wing
- Water cistern and its shed at the south side of the dye house
- Tool storage shed, and the water cistern & its shed at the NE yard
- Storage lean-to at the NE yard between the main building and engine room
- Open cistern at the east side of the engine/boiler room wing
- Existing landings at towers of main building
- Exterior stair at the northeast end of the main building
- Existing brickwork below window openings propose to be converted to doorways
- North entry doorway
- Selective building interior spaces, features and materials

Selective Demolition – Recommendation

All areas and elements proposed to be selectively demolished, including but not limited to those listed above, are recommended to be photographically documented prior to their removal.

Such documentation should generally follow the Historic American Building Survey (HABS) standards for photography.

Selective Demolition – References

- *The Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation*

Exterior Alterations

The exterior of the main building, including its two front towers, is essentially characterized by its brick masonry walls with rows of openings infilled mostly with wood windows across each floor, and sloping, hipped metal roofs that are pyramidal at the towers. Atop the main roof are four wood cupolas for attic ventilation, the pyramidal roofs of which are ornamentally capped. The two tower roofs have spire-like flagpoles at their peaks, and also have entrance ways at their bases. These entrances have pairs of metal clad doors, and concrete exterior landings. At the rear of the main building are a couple of brick clad projections housing toilet rooms (north) and another stair (south). The rear stair tower has another landing and a single entry door.

The exterior of the two-story machine/engine room building is metal sided, roofed and trimmed. A few openings remain, though most have been closed up with metal siding. And another cupola sits atop its roof, which ends in two gables, one facing south and the other east.

The single-story dye house has three exterior sides—north, east and west, while its south side partially stands against the engine/machine room building, and has otherwise been enclosed behind a lean-to structure. Except for the portion of the south wall that is behind the lean to, where the original brick wall remains exposed, the dye house exterior is stucco clad, though it had all been originally brick, which remains beneath the stucco. Several window and door openings yet remain at its east and west side, whereas the north side windows are blocked up. The dye house roof is sloped, composition shingle, and is a gabled roof. A concrete loading dock stands adjacent to the sidewalk at the east end of this structure.

The water tank structure is simply an exposed steel frame, consisting of tall uprights (that are near vertical yet slant slightly inward as they rise); intermediate, horizontal cross members; and diagonal bracing cables. Atop this structure is a steel and wood frame platform, octagonally shaped, with a wood board railing around the perimeter. This structure once supported a water tank, though the tank is no longer extant.

As discussed in greater detail in the specific recommendation that follows, as well as under the material-by-material recommendations section, the condition of the building is, generally, no better than fair. While its overall forms appear true, and the primary brick walls are in good condition, most of the other exterior features, materials and assemblies exhibit various degrees of deterioration, including the metal and stucco clad building exteriors. Overall, the PSM appears to be pockmarked and vacant-looking. In this respect, the windows are the primary culprit, but the prominent roofs are noticeably worn, as are the exteriors of the buildings at the rear of

the site.

Exterior Alterations – Design Proposal

The following summarizes exterior alterations specific to the historic buildings and structures (specific material recommendations, such as replacement windows and roofing, are included under the materials recommendation section):

Main Building Exterior

- Alteration of a selection of existing first floor window openings at the front (west) and rear (east) elevations in order to provide egress to and from the building and from individual dwelling units.
- Removal of the existing, north entry doorway, with the opening at the brick wall to be blocked up with new masonry.
- Removal and selective replacement of the exterior landings at the front towers.
- New roof cricket to be added between the south tower and the main building roof
- Alteration of roof cupolas
- Skylights to be added at east facing roofs

Engine/Machine Room Exterior

- New windows and doors to be installed throughout this building, including a selection of original window openings to be reopened, while several original door and window openings would be resized for new windows.
- Removal and reconstruction of roof structure

Dye House Exterior

- Two original window openings would be converted to doors at the north elevation. The remainder of these original windows would be replaced in-kind.
- The central doorway at the east elevation would be converted to a window, and the central doorway on the west elevation is shown to be deleted.
- All rooftop equipment and elements would be removed.
- Skylights to be added at roof
- Removal of exterior stucco and repair of original brick masonry walls

Water Tank Structure

- Addition of replica water tank atop the existing tower



Fig.38: Petaluma Silk Mill – Main Building
Existing west window & proposed new doorway

Exterior Alterations – Window Openings

Window Opening Alterations – Recommendations

The selective alteration of existing window openings in order to make new door openings is appropriate to the extent proposed, and per the following recommendation:

- The brick jambs and heads of the existing window openings shall be retained, and the brick sills and aprons shall be removed by clean sawn vertical cuts that allow the cut brick to remain exposed. Where gaps are left along the cut faces (due to the loss of shallow brick ends, for example), then these gaps shall be filled with mortar.
- New exterior wood frames at new door openings shall match the existing wood window frames.

Where new doors are installed in new openings, or in altered window openings, the doors shall be of a design that differs subtly, not markedly, from the historic and replacement doors. In this respect, subtle differences mean differing the number of panels, for example, or differing the material or finish; while markedly refers to all-glass, as new door

- Designs must be compatible with the style of the historic building – i.e., traditional, stile and rail type doors.

Altered and new openings – References

- ITS Brief#14: Adding New Openings in Secondary Elevations or Introducing New Windows in Blank Walls
- ITS Brief#21: Adding New Openings in Secondary Elevations
- ITS Brief#30: New Entries in Mill Buildings

Exterior Alterations – Rooftop Cupolas

Rooftop ventilation cupolas grace the rooflines of both at the main building (4 cupolas) and at the engine/machine room building (1 cupola). These are short, square, wood structures with pyramidal roofs of tin (see materials recommendations for woodwork and roofing treatments). Each of the four sides of each cupola has a rectangular opening infilled with straight, horizontal wood louvers.

Cupolas Alterations – Design Proposal

The project proposes to retain the cupolas, yet replace the ventilation louvers with window units, in order to reuse the cupolas as light monitors.

Cupola Alterations – Recommendations

As all five of the rooftop cupolas will remain, including the restoration of their exterior ornamental wood and tin work, then the replacement of the louvers with window units is appropriate.

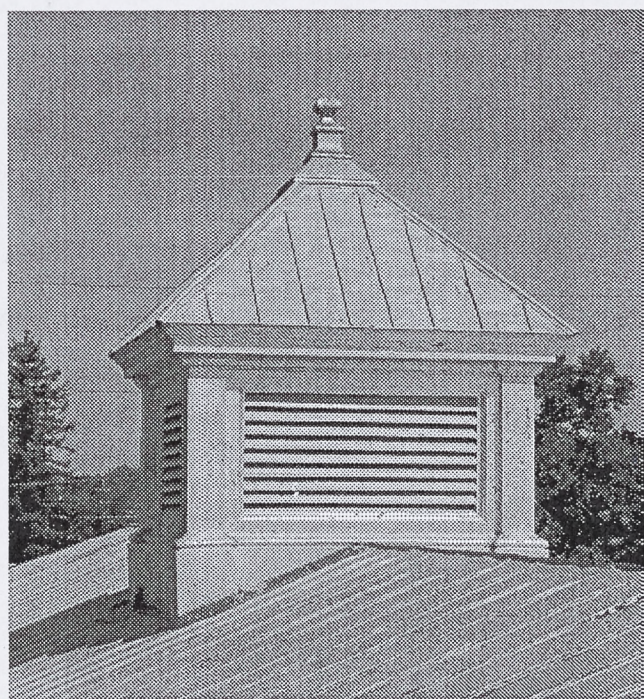


Fig.39: Petaluma Silk Mill
North cupola at main building roof



Fig.40: Petaluma Silk Mill – Dye House
Original roof at north side

Exterior Alterations – Skylights

The PSM originally employed industrial skylights (and roof hatches) at the north roof of the dye house.

Industrial skylights, clerestory and dormer windows are a typical feature of early American mills – as were sloped roofs – and unlike many other 19th-early 20th century manufacturing buildings, which employed roof monitors above flat roofs to bring daylight into the assembly room interiors. As the original attic of the main building was neither open to the floor below, nor used for manufacturing, no skylights or clerestory windows were originally employed at the PSM

Skylights – Design Proposal

The proposed design may add skylights at the main building and dye house roofs.

Skylights – Recommendation

As a precedent for skylights in this type of building makes them an appropriate addition, industrial-type skylights may be added to roof areas at the east side (rear) of the main building, and at the rear wing, though they must be logically placed and limited to a single row. No skylights should be added to the front (west) roof of the main building, as they would alter the appearance of the historic building's very significant front facade.

Exterior Alterations – Roof Cricket

An existing, cricket-like structure connects the north

tower of the main building to the main roof. This cricket provides headroom within an interior space linking the upper level of the north tower and the attic space. Despite the extent to which the two towers match, the south tower does not have such a cricket structure, so the interior of this tower is not linked to the attic space.

Roof Cricket – Design Proposal

The project proposes to add a roof cricket between the main building south tower and the main roof, in order to make a connection between the upper level of the south tower and proposed new loft space in the attic.

Roof Cricket – Recommendations

A new roof cricket, as proposed, would not be detrimental to the main building exterior, as long as it matches the restored, exterior appearance of the original cricket at the north tower. Since the proposed cricket structure will be new, as will the interior space it creates, then the structure should provide the necessary evidence that this element has been added.

Exterior Alterations – Stucco Removal

Stucco clads the dye house exterior walls. Although, based on historic photos c1920, we know this structure originally had an exposed brick exterior, there is no evidence of when the stucco was added. However, since the number of changes that this property experienced has been very limited, it may be assumed that the stucco was in place by the early 1940s, when Sunset took ownership. The stucco work is very rough, but appears to be otherwise sound and stable.



Fig.41: Petaluma Silk Mill – Dye House
Existing stucco at north elevation

Stucco – Design Proposal

The project proposes to remove the non-original stucco to expose the original, exterior brick walls.

Stucco – Recommendation

As is the case with interior brickwork, an appropriate rehabilitation treatment is to re-expose the brick where it was originally exposed. However, the stucco may have altered the brick masonry substrate in detrimental ways, such that the successful removal of the stucco cannot be assumed. For these reasons, it is recommended to ascertain the tenacity of the stucco prior to assuming that it may be successfully removed. If the removal of stucco would leave the brickwork scarred, or require substantial repairs to the bricks, then the retention and repair of the stucco is preferred.

At the south wall of the dye house, the proposed removal of the metal lean to structure will allow for an original brick masonry wall to be exposed.

Stucco – References

- Preservation Brief #22: The Preservation and Repair of Historic Stucco

Exterior Alterations – Water Tank

The existing water tower is tankless, and has likely been that way for many decades, although there is no specific record identifying when the water tank met its demise. In any event, its use for the provision of water for fire protection would have been eliminated when the area and this structure began to be served with municipal water.

Water Tank – Design Proposal

The project proposes to install a replica of the original wood water tank atop the existing water tower structure.

Water Tank – Recommendations

Although the original wood tank is no longer in place, there may sufficient documentation upon which to base its recreation to match the appearance of the original. At present, documentation is limited to historic photos, although these photos may detailed enough to provide sufficient documentation for the tanks replication. According to the NR record, there is supposed to be an original drawing of this water tower, presumably with its tank. This drawing should be sought out to provide further substantiation of the design of the tank.

It is also understood that the replica tank will not be of wood, as it was originally, but will be a synthetic material. The use of a substitute material for the tank may be appropriate, but the proposed tank should not stand out as something new, but should appear authentic.

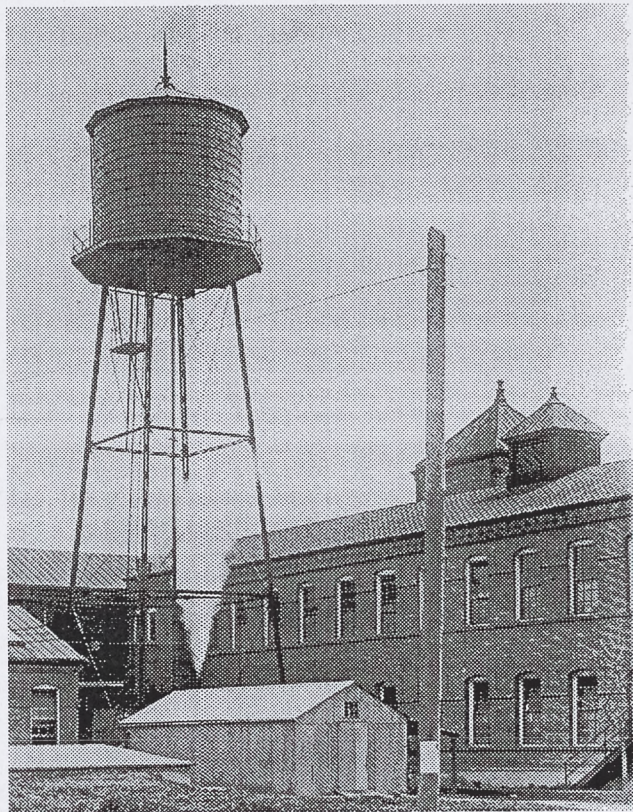


Fig.42: Petaluma Silk Mill – Water Tower
Water tank, c1912, from north

New Additions and Related New Construction

New Additions – Design Proposal

Proposed additions directly to the PSM are limited to an exterior canopy at the north tower entrance of the main building.

New Additions – Recommendations

As with any new exterior additions or construction, the rehabilitation priority is to avoid removing or altering identified historic fabric. Thus, new additions should not require the removal of any historic features or materials, and should touch the historic building to the minimum extent. The overriding principle is to add a feature in such a way as to allow for its future removal with minimal trace.

New additions – References

- Preservation Brief #44: The Use of Awnings on Historic Buildings: Repair, Replacement and New Design

New Construction – Design Proposal

Two, new, detached structures are proposed to be constructed at the north and south rear yards. The north

structure, facing Jefferson, would house three, 2-story townhomes. The south structure, facing Wilson, would house five, 2-story townhomes. Each of the units incorporates parking at their ground levels. A new, underground parking structure is also proposed to be located under the new, south building and the south yard.

New Construction – Recommendation

Priorities for the siting of new buildings on or directly adjacent to an historic property is to

- Avoid destroying or altering identified, character defining spaces, features and spatial relationships of the resource.
- Locate the new construction in areas of lesser historical significance.
- Subordinate new construction to the historic resource, so that the new does not diminish the importance of the historic.
- Differ the new from the old and, at the same time, make the new compatible with the historic.

These host of treatment priorities specifically suggest that new construction should be built:

- Independent of the historic structures, so that no alteration of the historic building is required.
- On parts of the PSM site that are of secondary importance, so that areas of primary importance are not affected by new construction.
- With a location and massing that respects and does not challenge the primacy of the historic structures.
- With a design style that is a direct outcome of contemporary functions, materials and methods.
- With a design style that is compatible with the identified style(s) of the historic structures.

Related new construction – References

- Preservation Brief #14: New Exterior Additions to Historic Buildings: Preservation Concerns



Fig.43: Petaluma Silk Mill – Main Building
Landing at north tower

Sitework and setting

The PSM is situated on a rectangular parcel of approximately 2.3 acres (~55,000 square feet). Nearly two-fifths of the site area is occupied by structures, of which the PSM building occupies the lion's share, with a footprint in excess of 20,000 square feet. Moreover, at some 310 feet in length, the main building practically fills the site from side to side. The remaining site is consequently divided into front and rear.

At the front of the site, the breadth and formality of the main building's facade is reinforced by a parallel running street that creates a frontage the length of the building. In the spaces between the towers, the front wall of the main building and the sidewalk, three shallow, fenced, formerly landscaped, and now overgrown yards are also formed.

The original entrances at the north and south towers are from landings directly off the street. Each is a concrete landing, although the south landing is just a shallow door stoop, with a set of steps cascading to the ground on all three sides, whereas the landing at the north tower is more of a dock, with steps at each end. The former appears to be original to 1922, while the latter replaced an original wood dock and steps sometime subsequent to the late 1920s.

A triangular park site stands to the west and directly across Erwin Street. This park adds to the PSM a sense of scale that is fitting for the size of the mill building, as it allows the building to be viewed as a whole, despite its impressive length.

Finally, to the west of the park is Lakeville Street, which runs at a diagonal to the site, and thus comes quite close to the main at its southwestern corner. Lakeville is the main road in this direct vicinity and is, thus, the road which the PSM appears to face and upon which it appears to stand.

Neither of the streets nor the park are a part of the historic site.

The north side of the main building faces Jefferson Street. Today, and apparently since the 1940s, a central entry recessed within this elevation is the entrance to the building.

The main building's south end faces an undeveloped and grassy yard, with the rear of an adjoining commercial property – separated by a fenceline – within sixty feet.

Around the rear of the property are yards given over to industrial activities. As the engine/machine room building and dye house form a single wing that projects from the rear of the main building to the sidewalk on Wilson Street, the rear yard is subdivided into north and south yards.

The north yard is mostly occupied by outbuildings, including the water tank structure, leaving a small open yard along the north fence line, as well as yard spaces in and around the several outbuildings. All of this yard is unkempt and periodically overgrown.

The south yard is largely an open parking lot of a mostly undeveloped sort, without paving or improvements. A large palm tree stands in the middle of this lot.

As noted, there are a number of fence lines that surround and enclose the site. At the front, there is a low wire fence and gates of an older vintage. Along the south and southeast property lines, there are contemporary, chain link fences. And at the northeast corner, along both Jefferson and Wilson, there is more of the older wire fencing and gates at the site perimeter.

Herein, the PSM main building, engine/machine room building, dye house, and water tank structure are identified as primary historical resources. The PSM site is not the primary conveyor of historical significance, as there are few individual features or characteristics of the site that can be identified as historical. What site there is is largely open, unimproved yards that contributes little in terms of sense, feeling or quality to the historic significance of the building, other than as the ground under and around the PSM. The site is bound by fences, though — even if they are older — these fences have no particular historical characteristic that is meaningful to the historic structures.

With respect to the site, areas that contribute to the significance of the historic resource are limited to the front yards, which have always had a formal relationship to the PSM, and have, over the years, been improved with designed landscaping.

The PSM setting, by which we mean its placement, orientation, and relations to its vicinity, likewise contributes to the historical character and significance of the PSM.

With regard to its larger and historical setting, it is also important to note that the front of the PSM faces and stands proximate to the Petaluma River, across which the historic downtown of the City of Petaluma stands. The PSM's orientation and relationship to the river and the town are significant characteristics of this resource.

Sitework and Setting – Design proposal

At the front and side yards...

- At and adjoining the building frontage, Erwin Street would be abandoned and incorporated into an expanded park.
- The space of Erwin Street is proposed to be made into a landscaped, pedestrian mews.
- A surface parking lot, with direct access to

Jefferson, would be incorporated into the park.

- The main building's small, enclosed front yards are to be retained as front stoops associated with individual residential units, with new and landscaped fences are to be incorporated.
- The main building's south side yard is to be retained.

At the rear...

- The south and north yards are to be partially infilled with new construction (as described under New Construction, above).
- New paved and landscaped spaces surround the existing and new structures.
- Small, private yards are created along the rear of the main building.

Sitework and Setting – Recommendations

As noted, the historical significance of the PSM is primarily due to its structures and setting, not its site or features or materials thereof. In fact, there are few features specific to the site that are considered character-defining features of this historical resource:

- Front entry landings at towers.
- Front yards.

Even then, it is their spatial character, rather than the material characteristics, of these features that is significant.

- In the context of any proposed project, the main building's tower landings and front yard spaces should be preserved. However, there are no particular materials that require preservation.
- The character of these front yard spaces should remain in the form of their being on grade and contained yard spaces, with landscaping as a foreground to the main building.
- Each of the two landings will require replacement, due to the extent of their deterioration as well as their effective reuse as entry ways. Their location and general form should otherwise be respected in their replacement.
- With respect to its setting, as summarized above, the street frontages are important, with the west frontage being of the highest historical importance. Here, the direct and formal relationship to the street (Erwin Street) and sidewalk are character defining, and should be retained in the form of a street or street-like plaza with a bona-fide sidewalk, at least leading as far as the south tower.
- The main building's front yards should also be

retained and rehabilitated.

- The open and frontal orientation to the River and the City of Petaluma should be maintained and reinforced. No structures should be placed, either along Erwin Street or at the park across Erwin, that would diminish vistas to and from the PSM.
- The rear loading dock on Wilson Street should be retained and rehabilitated. Given the docks participation in historic events, it may also be recognized via an interpretive plaque on it or in the direct vicinity.

Sitework and setting – References

- ITS Brief #39: Changes to Historic Site

Accessibility

The PSM has no existing provisions for disabled access.

Accessibility – Design Proposal

As the PSM is proposed to be adapted to residential use, primary accessibility provisions such as parking, building egress, and paths of travel are required and proposed, including the following access alterations specific to the historic structures:

- Reusing the main building, north tower as a front entry, with a new landing, steps, ramp and entry doors.
- Insertion of an interior elevator at the existing toilet room shaft on the east side of the main building.

Accessibility – Recommendations

Whereas at many historical buildings, the character of an historic entry or facade challenges the addition of access to the main entries, adding an accessible front entry to the north tower of the main building will not be difficult, as this existing landing requires replacement, and is otherwise only a few steps above grade. Nonetheless, proposed ramps should be kept low and, if possible, without hand railing. This can be accomplished if the slope of the ramps is very shallow.

The same is true wherever accessible entries are added to the exterior of the historic building.

Provisions for accessible parking and paths of travel on site are also not limited by the historical resource.

At the interior, one specific accessibility requirement is the insertion of an elevator, which is shown to be installed in the existing toilet room shaft at the east elevation. This is an appropriate location for an elevator as long as the exterior walls or roof are not altered in the process.

Accessibility – References

- Preservation Brief #32: Making Historic Properties Accessible

Interior Alterations

Despite its imposing presence and scale, the Old Silk Mill is a building of relatively and surprisingly few interior uses and spaces, what with large areas of each floor given over to specific manufacturing uses. Including, within the main building, a general office area at the north end of the first floor, and two manufacturing levels with few spatial divisions – across the top of which lies, for the full length of the building, an open attic.

The rear wing houses several additional production areas within its discrete structural parts, including coating and waxing rooms, a shop and storage within the two main spaces of the wood frame/metal clad portion of the building, with the aforementioned vault room and, finally, a dye room in the whole of the dye house.

At the interior, aside from the plethora of textile equipment, one's impression is, again, predominantly of brick masonry, yet with wood and timber framed floors and roofs or, in the wing, of concrete floors. Wood stairs, wood floors and doors, and wood paneled ceilings reinforce the building's material unity and simplicity.

Yet, there is more than immediately meets the eye. Upon scrutiny, a range of supplemental features exists, including, for example, the iron lintels that assist the arched masonry door openings, as well as the various metal straps and rods that literally tie the masonry and wood structures together. For that matter, the web of sprinkler piping adds, in a very functional way, to the overall interior design character. And though wood windows are the norm, there are a handful of steel windows, at least in the south tower. The south tower also houses a steel and concrete stair and landing structure, whereas the original stairs and landing of the north tower are all of wood. Wood doors are also the norm, yet there is a distinctive rolling, tin clad fire door separating the main building from the wing.

Thus, the overall building interior is more complex than its immediate impressions, yet, even then, characteristic interior features are within a narrow range, including:

- Brick masonry (exposed inside face of exterior walls)
- Original brick masonry cross wall at first floor, north end of building
- Wood posts and beams
- Wood timber and frame floor and roof structures

- Wood and steel stair structures
- Wood doors
- Steel framing components (iron lintels, straps, etc.)

Interior Alterations – Design Proposal

Main Building Interior

- Existing open floors of the main building are to be subdivided and infilled with new, full height, interior construction.
- The existing stairs and freight elevator within the north and south towers would be removed and, other than the first floor north tower, the tower spaces are proposed to be incorporated into dwelling units.
- At the north end of the first floor, the original offices at the first floor would be removed, while the original north brick wall will remain.
- Also at the first floor, the front entry at the north tower would lead, via a short hall, to a central corridor that follows and incorporates the two rows of central posts and beams. These corridors would lead, north and south, to new stairways, and would terminate at a cross wall. A lobby space is also created along this corridor, where a new passenger elevator is located, and passage to an entry lobby inside the engine and machine room building.
- These characteristics are repeated at the second floor, with the exception of the short hall leading to the north tower.
- An upper level to the second floor units will be created at the existing attic floor, the access to which would be directly from the second floor dwelling units. Given the form of attic floor spaces within the roof, use areas are to be concentrated along the building's centerline, and outer areas of the existing attic floor would be removed in order to open the upper level to below, in the form of a mezzanine.
- Throughout, the interior faces of exterior brick walls would remain exposed. Existing, exposed wood ceiling/floor structures would also be selectively retained and remain exposed, as would those portions of the ceiling that are wood paneled. Existing wood flooring would be replaced or covered with new flooring.

Engine/Machine Room Building Interior

Within this structure, original and current industrial spaces would be altered, and original materials and assemblies — wood wall, floor and roof structures, and concrete

floor structures — would likewise be altered and concealed, in full, to make residential uses. Interior walls and stairs would be removed. In the lower, engine room portion of this building, new floor levels would be created, above the original.

Dye House Interior

The interior space of the Dye House would also be subdivided with new interior construction, including a new, central walls from floor to underside of roof. Partial, new loft levels will be added between the existing truss lines, thus allowing existing trusses to remain exposed. Original brick walls also appear to remain exposed.

Interior Alterations – Recommendations

The proposed project retains and reuses interior spaces to a limited extent, as existing open floor areas will be infilled with new interior construction. To mitigate the effects of new interiors, the following recommendations should apply:

- New uses and construction should be fitted into this building with limited alteration of its identified, character-defining features and materials.
- Although its characteristic open spaces will be infilled, their industrial character — i.e., exposed brick and wood walls, floors and/or ceiling assemblies — should be retained to the maximum extent possible
- The interior design should also selectively make relatively large and open areas, from which the building's historical interior character can be sensed, and preferably in public or semi-public areas.
- The original north, exterior masonry wall that remains at the first floor office spaces should be retained. Though presently concealed, this masonry wall is an important vestige of the original building, as well as of the 1906 alterations. Assuming that it is in place, and that its condition warrants retention, the interior design should incorporate this historic wall.

Interior alterations – References

- Preservation Brief #18: Rehabilitating Interiors in Historic Buildings
- ITS Brief #5: Removing Interior Plaster to Expose Brick
- ITS Brief #15: Treatment of Interiors in Industrial Buildings.

HISTORIC MATERIAL TREATMENT RECOMMENDATIONS

The following HSR section identifies and summarizes historic building materials, and develops treatment recommendations for each identified historic material and assembly, along with the identification of pertinent preservation reference documents (many of which are included as attachments to this HSR).

Brick masonry

No other material characterizes the PSM as its brick walls do. This is an authentic brick masonry structure, with thickened walls of multiple wythes. Brick is the main building ingredient, and is exposed at the exterior of the main building and towers, as well as at the interior of the main building. The dye house was also originally all brick, though the exterior of that structure is stucco (refer to project recommendation section above), and the interior has largely been plastered.

Brick or stone masonry were the choice of such mill buildings, as the use of these materials constituted the state-of-the-art of fire resistive construction prior to the use of concrete, and mill construction needed to be as fireproof as possible. Thus, when we look back at the era of 19th century American mills, we see the use of brick time and again.

Not that brick mills exist beyond a narrow realm. It being the one and only authentic, early American, brick mill building in the Bay Area makes the PSM all the more

important.

Perhaps there were once others, but the phenomenon of earthquakes has reduced the number of real brick buildings and structures throughout the earthquake prone area. Which, again, adds to the mystique of the PSM – that it has not only survived, but that it is a good quality, even fine masonry structure. There is, in fact, no evidence of structural distress, and very little brick masonry deterioration. The building appears to be true and straight, and most of its 20th century pointing mortars are in good condition.

In 1906, the north end of the main building was extended. At the same time, according to the NR record, the north tower was partially rebuilt as a consequence of earthquake damage. While the north addition is documented in historic drawings, the north tower work is nowhere documented. However, it was at this point in time that the tower was raised in height, and its roof rebuilt to its present and more shallow pitch. Interestingly, there is a distinction in the brickwork at the south side of this tower and at about the line of the second floor. Below this line is the original 1892 brick, but above it the brick is the same as the later brick, suggesting that a fairly substantial amount of the exterior of this tower was then reconstructed.

These bricks and their mortar beds are from three different eras: 1892, 1906 and 1922. Though the latter were intended to match the original, they are readily distinguishable. The 1892 brick, averaging 8-1/4" long x 2-3/4" high x 3-3/4" deep, is a solid, dark red brick that is very even and consistent, including their shapes, which are more true than the later bricks. The 1906 and 1922 bricks, though roughly matching in size, vary in their coloration, from red, to orange-red, to ochre, resulting in a variegated appearance.

Additional characteristics of the brick include:

- Flat brick walls (apron, piers and spandrels) are set in a running bond (sometimes called American bond, for its predominate usage in N. America), with every sixth course a full header course (header bricks are turned into the wall, so that their ends are visible).
- Continuous, sloped, projecting sill courses at window sill lines, both levels.
- Continuous arcades incorporating brick segmental arches atop window openings, and brick relief work between openings (the overall pattern is crenelation-like), both levels.
- A continuous, corbelled and dentiled brick cornice.

This building has very likely never been cleaned, nor

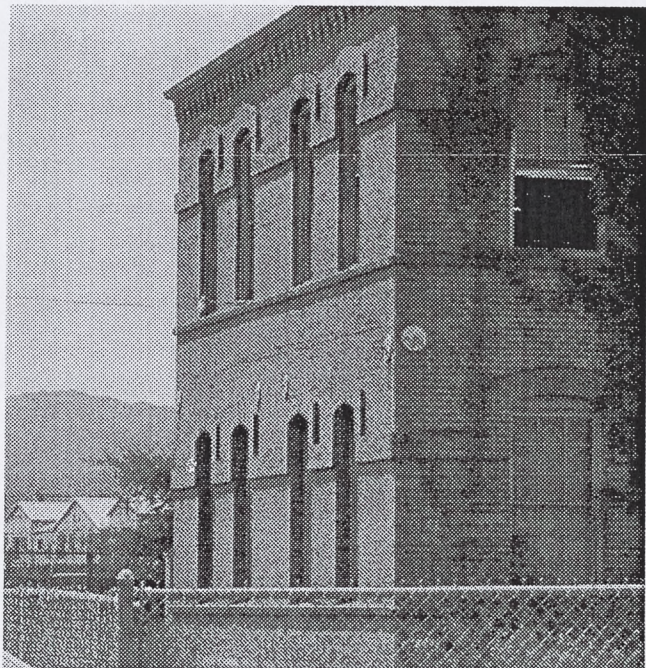


Fig.43: Petaluma Silk Mill – Main Building
South elevation

does it appear to have ever been repointed. Nonetheless, the bricks are both in equally good material condition, whereas the earlier mortar is noticeably more deteriorated than the later, especially so below the first floor windows.

Brick Masonry – Treatment Recommendations

As already noted, the historic brick masonry appears to be in good condition. Yet, as this will be only the second time in the building's history that it will undergo any form of rigorous alterations, overall cleaning and selective repointing are in order.

Since there will be some finish brick removed where the east stair shaft will be removed, and where window openings are to be enlarged, these existing finish bricks should be salvaged for possible reuse where new brick infill or repairs are required, for example, at the north entry.

Any existing brick to be removed and reused, in the words of the 1922 specification, should be "thoroughly cleaned... and used as far as they will go in the new work."

There does not appear to be any particular requirement for new, matching brick. Nevertheless, in the event new brick is required, then it should be acquired from the original maker and supplier, McNear Brick of San Rafael.

With respect to repointing mortars, it is most important that the appearance of the existing mortars be replicated wherever new pointing is put in place. Setting and pointing mortars shall match the historic mortar, which was specified as lime mortar with one part Portland cement to six parts mixed mortar.

It should also be noted that much of the existing mortar is stained with the wash from the bricks. This detail should be respected so that new joints do not starkly stand out against the old.

Cleaning work will require the removal of bio-growth from the sill courses. These same areas will require overall repointing.

Similar exposures, such as at outside building corners and at other areas where rainwater has been concentrated, will also require bio-growth removal and selective repointing.

And the brick work at most openings will require selective repointing following the installation of new windows and doors.

A detailed masonry survey is beyond the scope of this HSR, but must be undertaken as part of ongoing project efforts, and in conjunction with the removal of vegetation to enable such an examination as well as sub-

sequent cleaning and repairs.

Finally, masonry cleaning and repair must be undertaken by masonry restoration contractors. A range of alternate cleaning methods (dry and wet blasting, chemical, etc.) must be fully tested, and repointing mortars must also be specified on the basis of testing of the existing brick and mortar work.

Brick Masonry – References

- Preservation Brief #01: Assessing Cleaning and Water-Repellent Treatments for Historic Masonry Buildings
- Preservation Brief #02: Repointing Mortar Joints in Historic Masonry Buildings

Metal siding and trim

Corrugated and galvanized sheet metal (iron) sides the engine/machine room building -- a utilitarian and rugged material for a utilitarian and rugged set of uses. But this structure is more than simply a boiler and machine house, as its gabled form and ornamental trimwork give it architectural dignity. Its explicitly ornamental metalwork includes a sizable, molded sheet metal (galvanized iron) cornice/gutter (that has much the same profile as the metal cornice/gutter at the main building), and round roof vents in the peaks of the two gabled end walls. Another distinctive detail, in metal, is the window and door trim, which is metal-clad wood. Altogether, the all-metal engine/machine room building is a dignified architectural edifice in its own right, and a very fine companion to the main building.

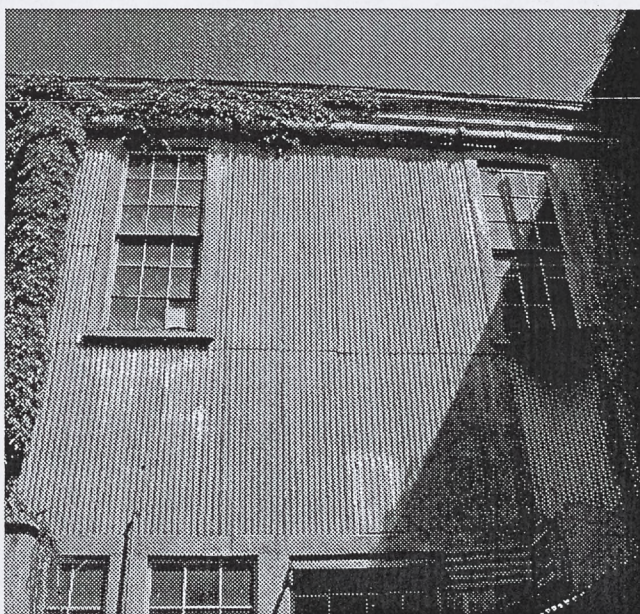


Fig.44: Petaluma Silk Mill – Engine/Machine Room Building
North elevation

Some of its dignity is based on its aged character — which can be classified as very thoroughly dinged; worn and old looking; character-ful.

Metal Siding and Trim – Recommendation

Though the urge to replace this siding, in part or in whole, is given reason by the fact that this material is entirely replaceable, literally, in-kind. And to do so would make this structure look nice and new. To resist that urge is the recommendation. This material is an example of old.

As the project moves on, there will be circumstances where sections of metal siding need replacement. As said, corrugated sheet metal to match the profile and finish of the existing material is available, so selective, in-kind replacement is in order.

Metal siding and trim – References

- Metals in America's Historic Buildings, Uses and Preservation Treatments; Margot Gayle, David W. Look, and John G. Waite; U.S. Department of the Interior, 1980.

Metal roofing and roof drainage assemblies

Brick walls, wood windows, metal siding... and metal roofs. These are the sum of primary, characteristic elements at the PSM.

Original and existing metal roofs are standing seam tin plate, which is what was specified in order to match the existing, when the 1922 addition happened.

Tin: soft, silver-white, crystalline, metallic chemical element, malleable, used as an alloy, same as tin plate. (from Webster's New World Dictionary, World Publishing

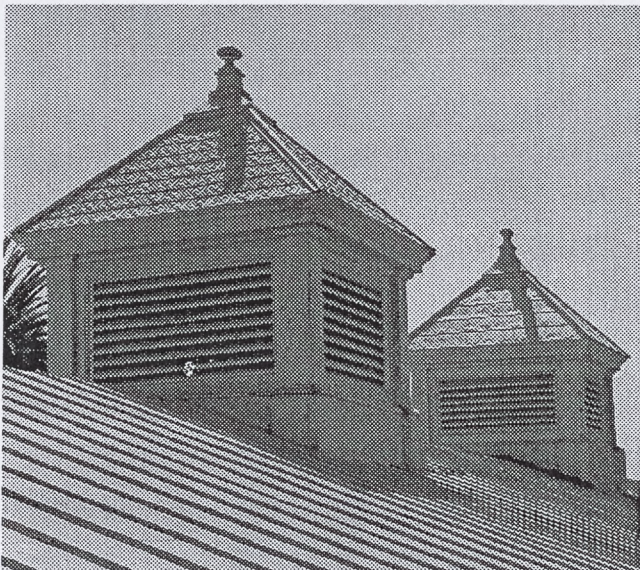


Fig.45: Petaluma Silk Mill – Main Building
Sout cupolas

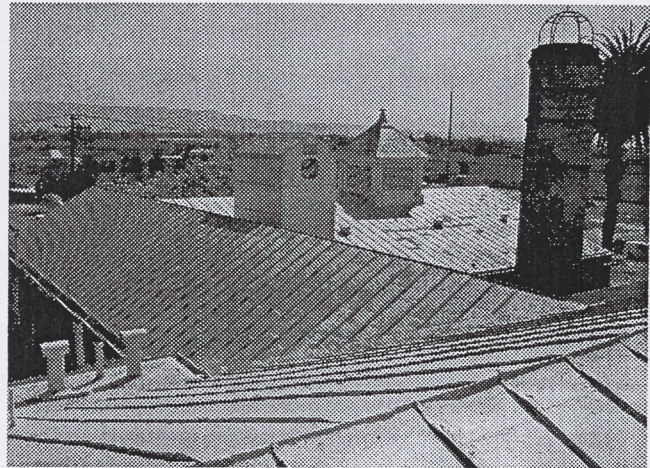


Fig.46: Petaluma Silk Mill – Engine/Machine Room Building
Roofs from northwest

Co., 1972)

Although tin plate was used in roofing during the 19th century, its equivalent is terne plate, which is an alloy of tin and lead. In fact, tin and terne were used somewhat interchangeably, though terne was recognized as a better roof material than pure tin, and for good reason, since lead is a very durable and stable element.

Tin and terne plates are made of soft steel or iron sheets coated on both sides with tin, or tin and lead. Tin and terne plate roofs are typically field painted, and require periodic recoating, without which they rust, as their base metal is ferrous.

To again quote the 1922 specification: "the underside of all sheets to be painted...one good coat of Venetian red in pure linseed oil before laying." The painting specification section then adds: "give entire roof surfaces of all tin roofs... two good coats of Metallic brown or Venetian red in pure linseed oil, of a shade to match as nearly as possible the present tin roof...." Thus, the original roofs were reddish/brownish in color, and a dark roof is in fact in evidence in historic photos of the main building.

The main building's tin roof is 310 feet in length and 45 feet wide, double-pitched lengthwise, with hipped ends. Each of the two front towers are covered with tall, pyramidal roofs, eighteen feet square, and each of the five roof cupolas, including one at the rear wing, are also capped with smaller pyramidal roofs. The L-shaped, machine/engine room building is covered with a gabled roof perpendicular to the main building, and a second gable roof perpendicular to that. All of these roofs are tinplate, standing seam, with the exception of three of the ventilating cupolas (the three most southerly at the main roof), whose pyramidal roofs are of pressed, galvanized iron shingles of two different types, one with a star pattern (at the 1892 cupola), and the two from 1922 with

tear drop patterns.

The dye house is also gable roofed, and was also originally tin, but was reroofed in 1998 (building permit application 98000289) with fiberglass shingles.

The tin roofing itself consists of flat pans that typically measure 22 inches wide by 28 inches long, joined with standing seams.

In addition to the roof flatwork, primary roofing components include cornice-style gutters, several original conductors (downspouts, one located at the north side of the east stair tower, and another in the center of the 1922 facade) and the ornamental work at the various pyramidal roofs, including bases, corner pilasters and finials. All of this original work is galvanized iron, which would also, per the 1922 specification, have been painted with "one coat of Sherwin-Williams galv. iron primer and two coats lead and oil paint, color to match present work." The two spire-like flagpoles at the front towers are wood poles.

At the east side of the main building's north towers is a roof cricket with flat top and sides covered with flat-seamed tin.

The original roof drainage assemblies consisted of vertical outlets in the gutter connecting to continuous, cast iron pipe laterals that drained to the rear, and likely fed into the cisterns. When the building was added onto, these laterals were modified and extended, and conductors were added wherever the laterals didn't serve, specifically at the front.

This system of laterals is no longer in use, though the main lateral remains across the top of the rear elevation. In its stead, addition conductors (downspouts) have



Fig.47: Petaluma Silk Mill – Main Building
Original metal gutter with added downspout at east elevation

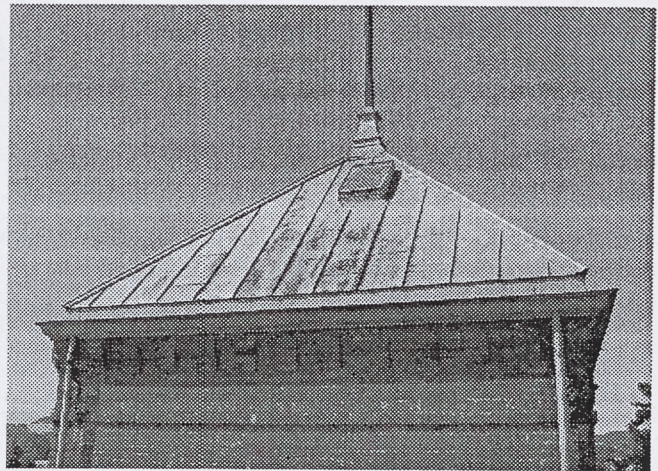


Fig.48: Petaluma Silk Mill – Main Building
East facing roof at north tower

been added.

Which brings us to the subject of roofing conditions, starting with the downspouts, which are not solving the problem of getting water from the roof to the ground. The downspouts were apparently added to circumvent the original system of cast iron laterals feeding primary central drains. Perhaps that original assembly failed, probably so given that it has been altered, but the alternative is an inappropriate system, as the building was not designed for conductors, so their introduction is intrusive.

Iron cornice-type gutters are of rolled iron plate, but are aged, and are visibly rusted in spots, suggesting that their actual conditions are worse than what meets the eye. These large gutters are all lined at their interior to create slopes to drains.

Tin roofing appears to be in fair condition. Based on a single reconnaissance of a portion of the roof, there are miscellaneous, small patches across the roofs, and the tin has been repainted with a silver (perhaps zinc or aluminum) colored paint. The coatings are quite worn at this point, and areas of rusting substrate are showing through.

Finally, the ornamental components of the roof do not outwardly exhibit signs of loss, except that flagpoles are practically bare wood, having likely never been repainted.

Metal roofing and roof drainage – Recommendations

Tin roofs and galvanized iron drainage assemblies are unique commodities in the present day. Moreover, the present tin roofs are in fair condition, and are also largely unaltered, providing solid evidence that the original roofs were effectively designed – excepting the system of roof conductors.

If at all practicable in the context of required structural improvements, primary roof areas — including the west facing roof of the main building, and the pyramidal roofs at each of the towers and cupolas — should be retained and restored. At a minimum, the pyramidal roofs should be retained and restored.

Likewise, the formed cornice-gutter, and the ornamental metal work at the towers and cupolas, should be retained and repaired to the greatest extent possible.

All of which isn't intended to prevent the replacement of elements where replacement is mandated by structural requirements or material conditions. Nor is the recommendation to retain selected tin roof areas intended to promote a rehabilitation design that results in an overall roof with visual dissimilarities. The overall intention of the roof rehabilitation shall be:

- To provide a first class roof that will last for at least another 100 years
- To provide a roof that is integral, and that does not have visual dissimilarities that call attention to themselves.

Specific roof related recommendations are:

Roof restoration and repair

- Removal of all coatings and patches from roof materials to be retained
- Repair and treatment of substrate (steel) materials
- Inspection and repair of all seams, as required, including resoldering and re-riveting
- Selective replacement (see below)
- Recoating of the roofs with metal roof paint, with a paint color to be selected on the basis of a detailed evaluation of the historic roof color

Roof drainage assemblies restoration and repair

- Gutters should be inspected and repaired as required, including resoldering and re-riveting
- Gutter assemblies should undergo detailed inspection to define the extent of required replacement. Where deterioration to the substrate (iron) material exists, gutter segment should be removed and replaced in-kind

Potential alteration of the roofing is contingent on structural upgrades, which may require additional structure at the roof assembly. Such work may include the removal of existing roofing, in part if not in whole, and its reinstallation or replacement. If the determination is made that comprehensive roof replacement is required, then roof alterations and replacement materials

- Appropriate replacement roofing is terne metal on a substrate of stainless steel, with a painted

color coat system per roofing manufacturer.

- Replacement gutter and downspouts should be galvanized sheet metal, and should be coated to match the roofing.
- New roof color to be selected on the basis of a detailed evaluation of the historic roof color (the roofing color should be reddish-brown, which is what is described as original.)

Roofing and roof drainage assemblies – References

- Preservation Brief #04: Roofing for Historic Buildings
- Metals in America's Historic Buildings, Uses and Preservation Treatments; Margot Gayle, David W. Look, and John G. Waite; U.S. Department of the Interior, 1980.

Windows

While only a few different types of windows exist(ed) at the PSM, there are many windows in total, nearly all being wood. Wood windows are, therefore, another of the few, primary, character-defining features of the PSM. The predominate window types are:

- Wood, 9-lite over 9-lite, double hung units, of which there are some 140 throughout both floors of the main building. These main building windows are each framed at the exterior with a one-piece, molded and mitered wood casing at window jambs and head — above which

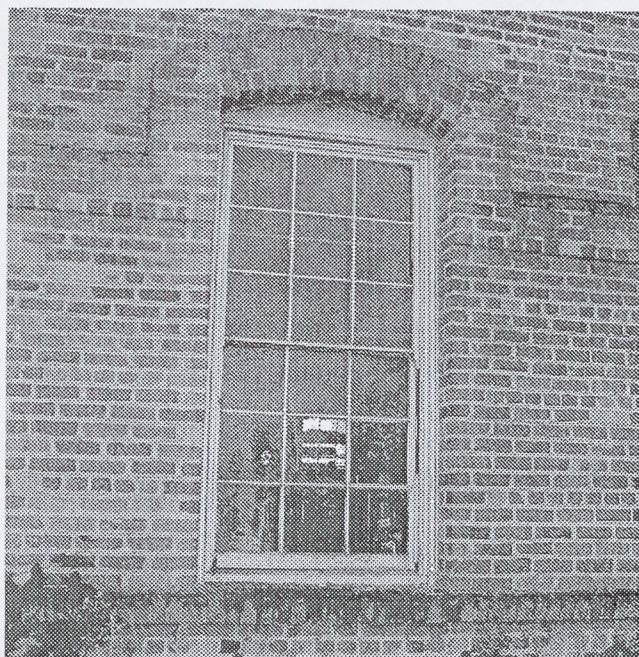


Fig.43: Petaluma Silk Mill – Main Building
Typical wood window at east elevation

there is a short wood panel infilling between the flat top of window and the brick arch – and with an out sloping wood sill, all inset within their brick masonry opening. Such that, at the jambs, the ends and sides of the outermost course of the exterior brick wall is exposed as it returns into the opening, as is the brick within the segmented arches atop the opening, while the wood sill rests inboard of a full, sloped brick course that continues to form a sill course around the building at each level.

These main building wood windows differ only slightly, with the front (west) and side (north and south) windows having sash horns (the ogee shaped moulding that drops down below the horizontal meeting rail at each side of the upper sash), while the rear (east) windows do not have sash horns.

- There are 9-1/2 more of these standard, 9/9 double hung units at the engine/machine room wing, in addition to which as many as a dozen others have been removed, and their openings covered with siding. As these units are at the metal clad building wings, their exterior wood casings are also metal clad.

Altogether, there were originally some 162 of these typical window units. Their regularity – in particular at the main building, where they stand in pronounced rows – makes these windows a very significant feature of the PSM. However, the condition of these windows is very poor, to the extent that a large number of them are in

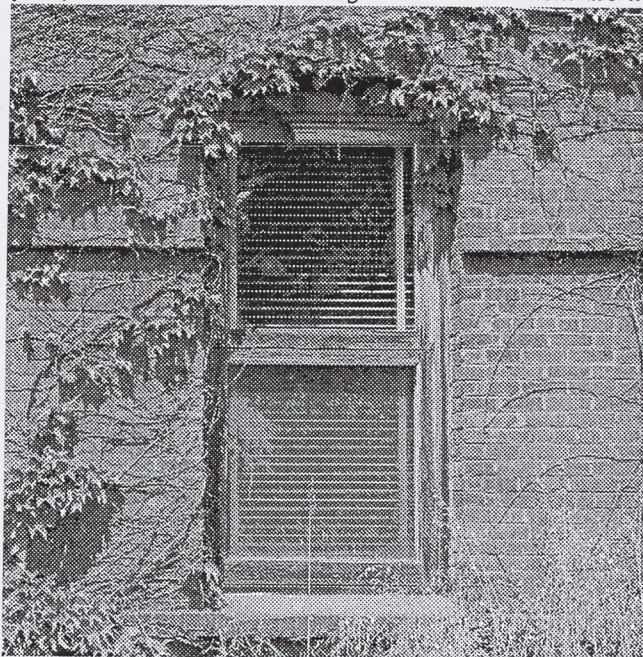


Fig.44: Petaluma Silk Mill – Main Building
Wood window at north end of west elevation



Fig.45: Petaluma Silk Mill – Main Building
Steel window at south elevation, south tower

ruin or missing altogether. This state of deterioration gives the building a disorderly appearance, although it is otherwise a clear and orderly structure. Even where some of these windows appear to be intact, they are in fact structurally feeble, which is not surprising, given that they are, at present, either 84 or 124 years old. It is also worth noting that the c1892 windows that were removed from the original north and south elevations were reused in the subsequent additions, so much of the existing main building has c1892 wood windows.

Another type of wood window is found at the north end and first floor of the main building. The two wood windows at the end of the east elevation are 1-over-1 wood sashes, while the other two at the north elevation are 1-lite fixed sash, although they are not exactly alike, suggesting they were added at different times. In any event, all of these windows and their openings were added to the building sometime in the mid-1920s or thereafter – it may be that the windows in the west elevation and in the west half of the north elevation were added in the mid-1920s (a distinct possibility, given that the 1926 Sanborn Map shows the west half of this first floor space already converted to offices, and the east half as a vault), and the windows in the east half of the space (and the north entry) were added in about 1940, by which time Sunset had taken ownership (and likewise supported by the 1941 Sanborn Map, which shows the

office configuration as it is today, including the area to the south of the 1892 exterior wall). This set of four wood windows are in fair and reparable condition.

The only other type of windows are the steel unit located in the south tower and in the east stair shaft, with a total of seven units in the former and two in the latter. These units have various patterns of multiple lites: at the front of the south tower, there are two units of 20 lites with 5 across and 4 high, and a central upward pivoting window of 9 lites; at the sides of this tower, there are five units (two at the north side and three at the south) of 16 lites each, 4 wide by 4 high, and the middle 2 rows are an upward pivoting sash; another of these same 16-lite units at the second floor and north side of the east stair shaft; lastly, at the first floor of the east stair shaft, an 8-lite unit with 2 high and 4 wide.

These steel units all date from the 1922 addition, and are of steel for the purposes of fire resistance within the new stair towers. As with all windows in the main building, they are set into segmentally arched masonry wall openings, but for one particular exception – the lower unit in the front of the south tower, which has a brick masonry spandrel between the head of the window and the segmented arch shape, which is a blind arch. This was apparently done in order to match the corresponding opening in the north tower, which is far taller than the window. The steel windows are also in fair and reparable condition.

Window Recommendations

As a result of the extent of their deterioration, the recommended window treatment is to replace all of the typical wood windows with new, and to likewise install new wood windows where they were previously removed.

With respect to the set of four windows at the north end and first floor of the main building, it is first recommended that these windows be retained and repaired, since they are in reparable condition. Such work would include:

- Possible removal and salvage of the units, including hardware, for protection and for off-site rehabilitation
- Removal of deteriorated coatings inside and out
- Repair of any deteriorated wood parts with matching wood materials and fillers
- Removal and repair of operating and finish hardware, or its selective, in-kind replacement
- Preparation, repainting and reinstallation

If selective replacement is determined to be required, since they are a distinctly different type of window, they should not be replaced with the typical units, but with

windows to match in-kind. Their difference tells a story, even if not an obvious story, that something changed in this location.

The steel windows are also in fair and reparable condition. As they are a relatively unique feature, including their wire glazing, and have a unique historic function (fire-resistance) specific to the mill building – in particular those at the south tower – the south tower units should be retained and restored. Based on other requirements (thermal, egress...), the units should be altered rather than replaced.

Windows – References

- Preservation Brief #09: The Repair of Historic Wooden Windows
- Preservation Brief #13: The Repair and Thermal Upgrading of Historic Steel Windows
- ITS Brief#14: Adding New Openings in Secondary Elevations or Introducing New Windows in Blank Walls

Doors

There are remarkably few exterior doors relative to the size of the PSM. The extent of existing doors include:

- Pairs of wood doors entering each tower at the first floor. These doors are a galvanized metal clad, wood, two-panel door with a glass lite in their larger, upper panel. The north tower doors are not original (the original doors were four-panel wood doors, with short lower and tall



Fig.46: Petaluma Silk Mill – Main Building
Wood entry doors at north tower

upper panels), and when they replaced the originals is not known, except to note that it was not before the late-1920s. The south tower doors appear to be original, as they match what was in the 1922 drawings as well as early photos, including their galvanized cladding and door hardware (handles and hinges), with the exception that the original doors were called to have wire glass, and the current doors do not. A matching set of doors with intact hardware and wire glass lites exists at the interior of the south tower, where the tower accesses the main building.

- A single entry door at the north elevation of the main building. This is a clear finished, hardwood stile and rail door with a single, large glass panel. It also has a set of fixed side lites, four-lites each, and an operable, hopper-type transom with 5 lites. This door assembly is not original to the 1892 building, nor to the vault addition of 1906, into which it was apparently inserted sometime during the course of the 1920s, when the first floor vault space was also apparently converted to general offices.
- A pair of two-panel wood doors enters the east side of the dye house, and another matching pair enters from the yard at the west side of the dye house, while yet another matching pair enters the north side of the machine/engine room building from the same yard. These pairs are two-panel wood doors, several with a glass

lite in the smaller, upper panel (although the glass lites at the Dye Room doors are absent). Based on the original drawings, neither of these pairs of doors are of the type original to the 1892 building. Their actual date of installation is not known, except to note that these doors match the type of exterior doors at the upper floors of the north tower, which, in turn, replaced the original tower doors no earlier than the late-1920s, or thereafter. For the purposes of this HSR, it is assumed that these sets of wood doors all date from c1940.

- There are also two doorways into the south side of the engine/machine room building. The western door is an over-wide, 3-over-3 wood panel door. This door may be the only exterior door surviving from the original 1892 building, as it is an obviously ancient door, and closely resembles the original type of Victorian, multi-panel wood door. Nonetheless, it is not exactly as illustrated in the 1892 drawings, as it is a single, three-panel wide door, whereas the original drawings indicate a pair of two-panel wide doors in this location.

Of these two doorways, the eastern doors are a pair of utilitarian stile and rail doors with diagonal members at panels, thus resembling barn doors, and with a five-lite wide transom window above. This doorway is not shown in the original drawings, so is assumed to not be original, nor is their type anywhere other than in this location.

- A single door into the east stair shaft of the main buildings is the same type of door as at the south tower, and likewise appears to be original to 1922. It is a two-panel, wood door with galvanized metal cladding and a large glass lite in the upper panel (although, again, without its original wire glass).

Several exterior doors also exist at the second floor, including:

- Two pairs of wood doors at the west side of the north tower. Both are two-panel wood doors without lites. They are not original – the originals were four-panel Victorian-style doors – nor is their date of installation known, except to again note that they were installed sometime after the late-1920s (and based on ownership changes, at which time infrastructural improvements are often undertake, it may be assumed that such doors were replaced c1940, when Sunset Line originally purchased and occupied

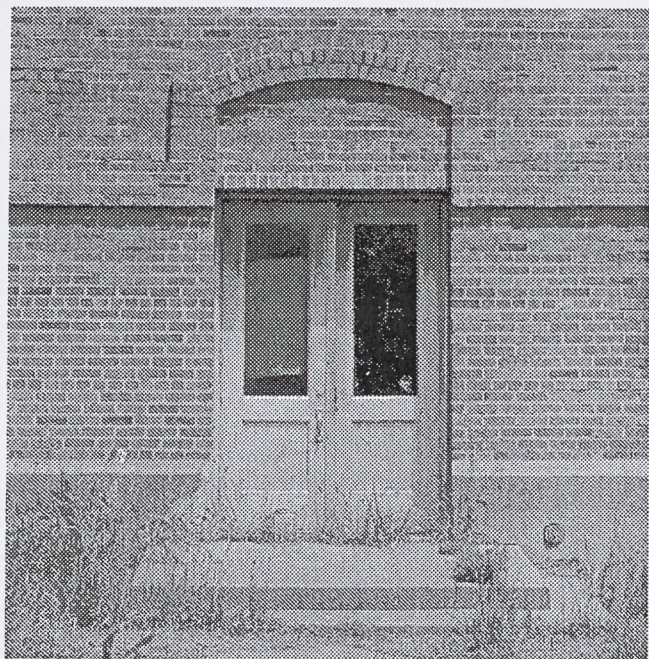


Fig.47: Petaluma Silk Mill – Main Building
Wood entry doors at south tower

the PSM).

- A single door exists atop the exterior stair at the very north end of the main building's east side. This door is also a two-panel, metal clad wood door with a glass upper lite. This doorway does not appear in the original, 1892 plans, but matches the other, original exterior doors of the 1922 structure.

In conclusion, there are but 5-types of doors, of which only one type appears to be original to the 1892 building, the western door in the south elevation of the engine/machine room building. There is also a pair of exterior doors, at the entry to the south to, along with a single door, at the entry to the east stair, that are original to the 1922 addition.

Door Recommendations

The identified original doors and hardware, at the main building south tower and the machine/engine room building, should be retained and restored. This door restoration work includes:

- These doors and their hardware shall be removed for protection and restoration off site.
- Repairs shall be made using the materials and methods exhibited in the original doors.
- Remove and salvage all existing hardware.
- Remove all deteriorated paints and coatings.
- Repair deteriorated surfaces and elements by removing affected areas and replacing with new pieces and/or fillers to match the surfaces of the existing materials.
- Remove and replace the existing glass to match the original wire glazing.
- Refinish, relubricate, reinstall, and adjust existing hardware. Provide new hardware parts, where missing or irreparable, to match the equivalent, restored existing.

All other doors may be removed and/or replaced:

- Replacement doors shall be of a design and finish that is compatible with the identified, historic doors to remain. Such doors could be metal or metal or metal clad, panel doors with lites, similar to the existing entry doors. Replacement doors shall be of a single type, rather than a mixture of types.
- Where new doors are installed in new openings, or in altered window openings, the doors and hardware shall be of a design that differs (subtly, not markedly) from the historic and replacement doors, yet is also compatible to the style of the historic building.

Steel water tank structure

The water tank structure is an exposed steel frame, consisting of tall uprights (that are near vertical yet slant slightly inward as they rise); intermediate, horizontal cross members; and diagonal bracing cables. Atop this structure is a steel and wood frame platform, octagonally shaped, with a wood board railing around the perimeter. This structure once supported a water tank, though the tank is no longer extant.

Water tank structure – Recommendation

The water tank structure should be retained and maintained essentially as it is, yet with its steel and wood components stripped of deteriorated coatings, repaired to the extent required, cleaned and repainted.

There are a variety of appropriate methods for the stripping of paints, including controlled abrasion and chemical means. Each are appropriate, but must be determined on the basis of testing to determine which requires is the most effective while, at the same time, being the least aggressive. The goal of all stripping of historic assemblies is to effectively remove only deteriorated coatings.

The final paint color for this tower should be determined in the course of the design process, and as a result of a more detailed evaluation and design proposal.

Ornamental metals

A selection of exterior metal components are present, including:

- Embossed, circular bearing plates (at outside building corners)
- Flat, square cast iron bearing plates (at brick cornice corresponding to the ends of trusses)
- Cast iron foundation vents

These features are small, but are structurally and materially essential, and are thus character defining. Most appear to be in good condition, except that some foundation vents are missing.

Ornamental metals – Recommendation

These ornamental metals should be retained. No specific work is required to the existing components. Where foundation vents are missing, they should be replaced with new vents to match the existing adjacent.

Ornamental metals – References

- Metals in America's Historic Buildings, Uses and Preservation Treatments; Margot Gayle, David W. Look, and John G. Waite; U.S. Department of the Interior, 1980.



Fig.48: Petaluma Silk Mill – Main Building
Parged base at southwest corner

Concrete

Exterior concrete assemblies at the PSM include its foundations, landings and loading docks at doorways. In addition, several concrete cisterns are built into the site.

Foundations

Each of the historic structures, including the main building and the dye house, have concrete perimeter foundations with broad stem walls that stand above grade at the exterior, project forward several inches from the face of the brick wall, and have a washed (outsloping) top surface, altogether forming a continuous base around each of these structures. These stem walls are not exposed concrete, but instead have an original, cement finish.

The 1922 cement finish is specified as ½ inch in thickness, with equal parts sand and Portland cement, troweled smooth. While the 1992 finish was specified to match the earlier, 1892 cementitious finish, the two eras were obviously of different quality, as the earlier finish is in very poor condition, even missing in many places, while the 1922 finish is in good condition, with few cracks and almost no areas of loss.

Landings and Docks

Concrete landings and loading docks are the only other exterior concrete building elements. These occur at each of the original front and rear tower entry and exit ways, as well as within the exterior vestibule at the north entry, and at the rear (east) of the dye house. Each of these landings are utilitarian:

- the north tower entry is a broad one, with steps

at each end, and with a metal rail embedded across its western length;

- the south entry landing is a small one, with wrap around steps;
- the rear tower landing is also a small one with steps leading up to the single doorway;
- the north landing sits inside the vestibule, and is just one step;
- and the rear landing at the dye house, which serves as a loading dock, is much like the one at the north tower, with steps at one end and the length used as a platform.

The west (front) landings are in poor condition. The north dock is used as a loading dock for the main building, and has suffered accordingly. Of these, only the south landing is original.

The landings at the east stair is in good condition, and the dock at the east end of the dye house is in fair condition, with several large yet reparable cracks. Both of these elements are original, c1922 and 1892, respectively.

Concrete – Recommendation

Foundations

Exposed, exterior concrete foundations of the historic structures should be retained. Their existing cement finishes should likewise be retained, where in good condition. Where deteriorated and lost, the cement finishes should be repaired and restored. Repair and restoration work should include the:

- Removal of unstable, deteriorated cement layers.
- Cleaning of the substrate concrete, including the cleaning and coating of any exposed ferrous metals.
- Patching of removed and missing areas with cementitious patching mortars formulated to match the directly adjoining, restored cement finish.

Landings and Docks

Given their state of deterioration, the front entry landings require replacement. Their replacement should be made with new concrete landings and steps.

The dye house loading dock should be retained and its cracks repaired with concrete patching mortar.

Concrete – References

- Preservation Brief #15: Preservation of Historic Concrete: Problems and General Approaches

Painted signage

A variety of large identification signs have been painted directly on the brick walls at the west elevation of the main building and its front towers. At this point, these signs are no more than vestigial, as they have long since faded.

This signage once included, in the west elevation of the main building, a set of painted panels in the spandrels between the lower and upper windows, one each at the north and central sections of the façade. This appears original to the 1892 building, and read CARLSON-CURRIER CO. (in the north section) and SILK MANUFACTURERS (in the central section). The background was a solid panel of white paint, and the large block letters were black or very dark. These signs are practically gone, all that can be seen are a thin veil of paint and ghosts of letters.

The upper part of each tower have supported similar signs. These painted signs have identified each of the companies that have owned the mill, Carlson-Currier, Belding Bros. & Co., and Sunset Line & Twine. The Carlson-Currier signs was located at the front (west) and south side of the north tower (prior to the existence of the south tower), and to the wall signs described above. Once Belding Bros. had acquired and completed expansion of the mill, they altered the original signs at the north tower to bear their name, yet leaving the words

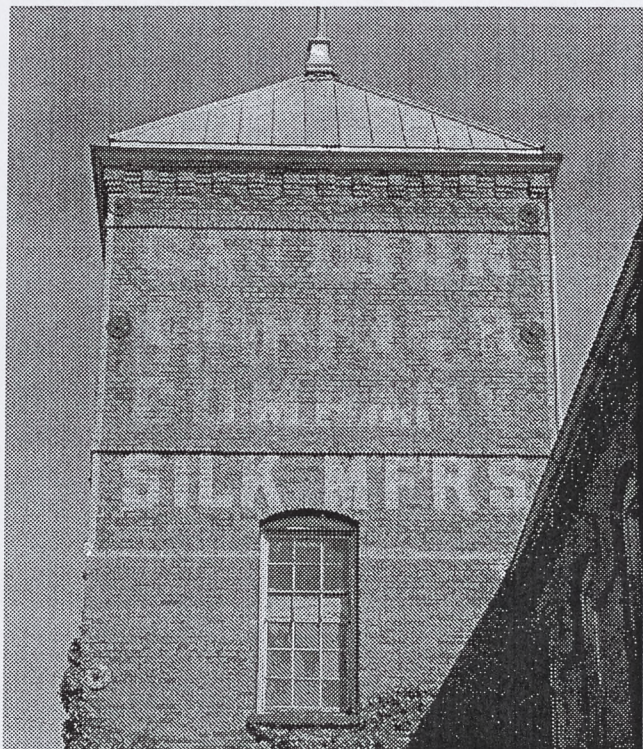


Fig.49: Petaluma Silk Mill – Main Building
Painted signage, south elevation, north tower

SILK MFRS, and painted three matching signs – one at the north side of the north tower, and two at the south tower's front and north side. Vestiges of several of these original and early signs remain at the sides of the towers, and their inscriptions can even be discerned, including the original Carlson-Currier designation at the south side of the north tower, as well as Belding Bros. at the north side of the south tower. The front facing signs have each been repainted to read SUNSET LINE & TWINE MFRS OF FISH LINES, with white lines and lettering on a black background, which has been the norm for the tower signs since their origination. And even these later signs are very faded.

Painted signage – Recommendation

This issue of painted signage is integrally related to the cleaning of the brick masonry upon which they are painted.

The remains of painted signage should not be wiped off the main building's towers, nor is it appropriate to restore them. The best direction here is to simply maintain the status quo, yet understanding that the signage will continue to disappear. An outcome of this recommendation would also be that the brickwork of the towers would be not selectively cleaned in order to avoid removal of the signage.

Painted signage – References

- Preservation Brief #25: The Preservation of Historic Signs

Ivy

A substantial amount of ivy is growing upon this building, to the extent that, at this particular moment, large areas of the exterior walls are concealed from view. As evidenced by historic photos, the ivy has been there all along, as is evident also by looking at the trunks, which are clearly old.

Ivy – Recommendation

As noted, ivy has clung to this building for the duration of its existence. As such, it is a highly visible characteristic of the main building. At the same time, ivy can be detrimental to exterior materials, while also prohibiting required cleaning and repairs.

The existing ivy should be removed, at least to its roots, and to allow for the detailed inspection and repair of the exterior. It, however, need not be eliminated, assuming it can be successfully cut back to fully uncover the building exterior. In the event that it may require elimination, then it is recommended that ivy be selectively reintroduced to the exterior.

INTERIOR RECOMMENDATIONS

Throughout this HSR, the exteriors of each of the historic structures of the PSM have been identified as of primary historical significance, while characteristics of the site and setting are of secondary importance, and interior spaces and features are of tertiary importance. Contributing interior features are limited to:

- Brick masonry (exposed inside face of exterior walls)
- Original brick masonry cross wall at first floor, north end of building
- Wood posts and beams
- Wood timber and framed floor and roof structures
- Wood stair structures
- Wood doors
- Steel framing components (iron lintels, straps plates)

Interior Brick masonry

The exterior, brick masonry walls of the main building and the dye house are exposed throughout their interiors. Exposed interior brickwork has been mostly painted, although some of this coating appears to be no more than a whitewash (lime paint).

Where exposed, the interior brick is in good condition, though there are miscellaneous areas of damaged or removed bricks.

The original, 1892 brick masonry, exterior, north wall of the main building remains at the first floor interior. Although this wall is, at present, largely concealed under plaster and wood finishes, it is a structural wall that supports the second floor of the 1906 vault addition. Some of this wall is visible within the 1906 opening between the existing office space and the hallway. The condition of this existing brick is unknown, since it is concealed.

Interior Brick – Recommendations

Where exposed, the existing brick masonry should remain exposed throughout. Interior brick repair work will consist of paint removal and cleaning. Both processes shall be undertaken using the least invasive method required for the task. As the work will be at the interior, the use of water should be limited.

Where interior brick has been covered, removal of the plasters and panelings should be undertaken in order to expose the brick. Though the underlying brick may be scarred as a result of its having been covered over, the scars need not be repaired.

Interior brick – References

- ITS Brief #5: Removing Interior Plaster to Expose Brick

Interior Woodwork

Wood columns and beams

At the first floor, a line of paired columns marches down the middle of the main building, lengthwise. These turned columns support wood floor beams via carved bolsters. The 1922 columns, which visually match those of 1892, were specified to be of Oregon pine, and the bolsters of oak.

These columns are centrally located in the manufacturing floor, while also forming a corridor between their pairs. As a consequence of the heavy equipment traffic surrounding them, the bottom halves of the columns are very beaten up, yet the posts still appear sound. However, it may be assumed that some structural work will be required at these columns (in fact, following the 1989 Loma Prieta earthquake, in correspondence from the City of Petaluma Community Development Dept. to the building owner, dated 11/30/99, the city directed the owner to "strengthen the columns and fasten them to beams and also band any columns that appeared to be splitting.")

Wood columns and beams – Recommendation

These posts, beams and bolsters are significant historic interior features. They should be retained, repaired and repainted, with the intent being that these ornamental structural features remain fully exposed. Any structural work must avoid significantly altering their appearance. Also, repairs should be limited to the removal of deteriorated wood and paint, and repainting without the filling of voids to mask prior usage.

Wood floor and ceiling structures

The first and second floor of the main building, and the second floor of the engine/machine room structure are wood framed with wood plank flooring. The wood frame floor structures largely remain in their original forms, although there is evidence that the main building's first floor is not in good condition. Moreover, though a fairly large amount of the flooring is wood, there have been many floor alterations throughout, including its selective replacement with a variety of wood materials and concrete. Inspections of the subfloor have also indicated extensive deterioration. The flooring can thus be characterized as in poor condition.

Wood floor and ceiling structures – Recommendation

In the context of proposed new uses, either the floors

must be altered, or the ceiling/floor framing and ceiling finished must be. Since the flooring at both levels of the main building is in relatively poor condition, it is recommended that the floor/ceiling structures be retained, and that new floors be placed, albeit with a wood assembly that is similar in character to the equivalent, restored floor.

At the engine/machine room building, the ceiling/roof structure is concealed, and that structure is also not appropriate to be exposed. Alteration of this ceiling/roof structure is, therefore, not limited by rehabilitation recommendations.

Interior stair structures

Several original interior wood stairs remain, one set at the north tower and one in the engine/machine room. The tower stairs ascend three flights from their first floor to the attic level. The engine/machine room stair ascends from the first to the second floor. These stair assemblies consist of wood framed and planked stairs, and solid wood railing assemblies with molded caps and bead boarded sides. In each case, their conditions are fair, as each has been heavily used. Indeed, the north tower stairs are no longer straight and appear unstable.

A set of corresponding steel stairs with concrete wear surfaces are located within the south tower. Given the strength of these materials, this stair is in good condition.

Interior stair structures – Recommendation

Each of these original stairs is a character defining interior feature, not only of this mill, but of period mill buildings. Design efforts should attempt to retain, repair, and refinish each of these stairs.

Interior doors

The open interiors of this mill building allows for few interior doors. Such doors include:

- Between the manufacturing floors and the towers, pairs of two-panel, metal clad wood doors with wire glass
- Between the main building and the engine/machine room, a sliding, metal lined wood door

Each of which appears to be original, and each is specifically a fire door.

There are also some doors at the original toilet rooms, and at the original silk vault, and there are various, non-original interior doors between storage and toilet room spaces

Interior doors – Recommendation

Of these doors, the four pairs of tower doors and the two doors separating the main building from the engine/machine room should be retained, repaired, refinished and reused. The sliding fire doors are not required for reuse as fire doors, so they may be fixed in open positions.

Metal framing components

A range of structural iron and steel lintels, straps, rods and plates can be seen throughout the building interiors. These components are integral parts of the building structures.

Metal framing components – Recommendation

Retain all such components.

Interior Concrete floors

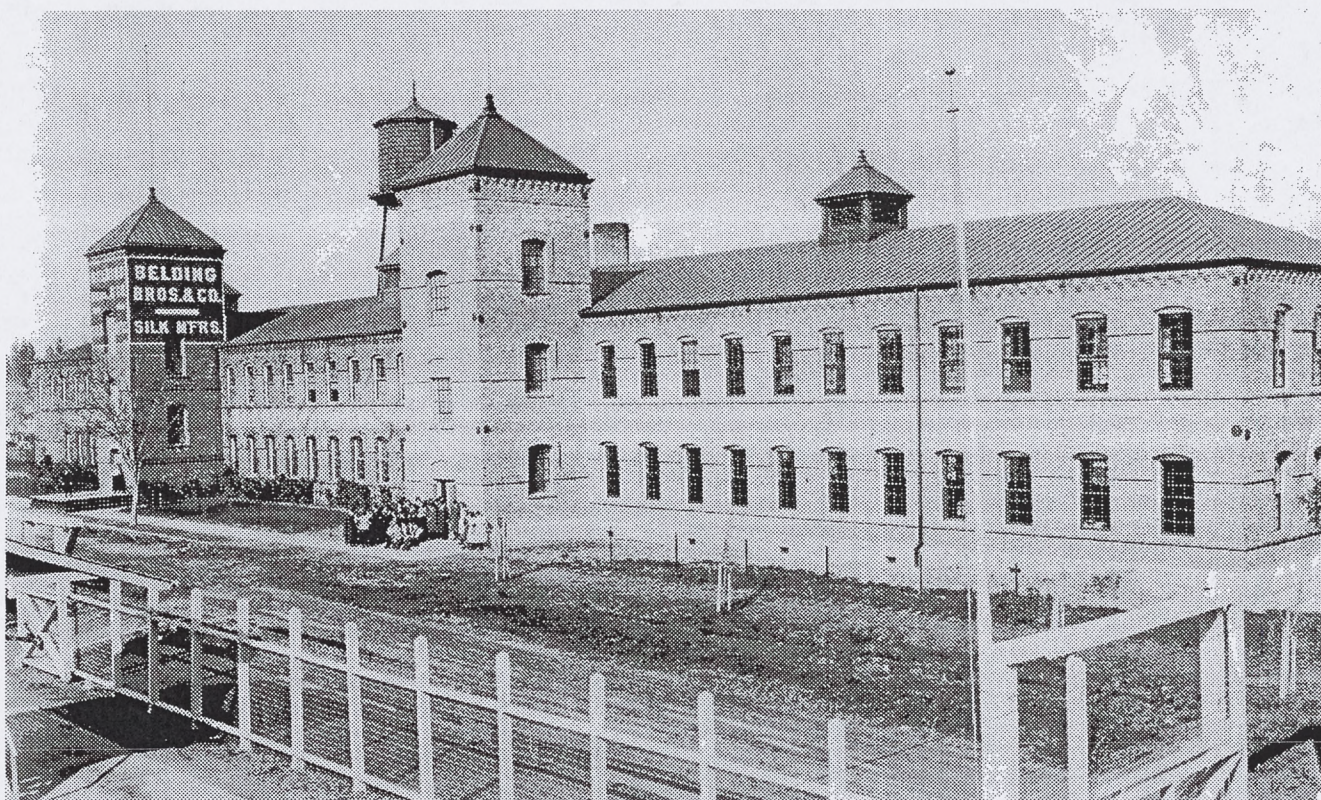
Concrete floors include:

- The first and second floors at the north end of the main building
- Throughout the dye house
- The first floor throughout the engine/machine room building

Excepting the floors at the north end of the main building, these concrete floors were hard working industrial floors, and thus show not only the wear and tear, but heavy staining from industrial materials and fluids. They are in no better than fair condition.

Concrete floors – Recommendation

To the extent feasible, these floors should be retained, at least as substrates to new finished flooring.



PETALUMA SILK MILL

HISTORIC STRUCTURES REPORT

Fig.50: Petaluma Silk Mill – Main Building

c1922 view from south of recently completed addition (at right) to the original building (at left – Courtesy Petaluma Museum)

RESOURCES

In addition to the documents and reference standards attached to this HSR, the following resource materials were utilized in the preparation of this HSR. For additional historical references, see the bibliography in the attached NR record, pages 20-23.

Archives:

Petaluma Historical Museum and Library.

Books:

Early American Mills; Martha and Murray Zimiles; Bramhill House, 1973.

Amoskeag: Life and Work in an American Factory City; Tamara K. Hareven and Randolph Langenbach; Pantheon Books, 1978.

Architectural Design: Mill Design; International Textbook Co., 1925.

Illustrated Dictionary of Historic Architecture; Cyril M. Harris, editor; Dover Publications, Ind, 1977.

American Architecture - An Illustrated Encyclopedia; Cyril M. Harris, editor; W.W. Norton & Company.

Metals in America's Historic Buildings; Margot Gayle, David W. Look, AIA, and John G. Waite; U. S. Secretary of the Interior, 1980.

Articles and Periodicals:

"The Petaluma Silk Mill," Lucy Kortum; The Journal, Sonoma County Historical Society; 1987, pp. 2-8.

"The Story Behind the Story," Bart Rawson; Commercial Car Journal; ; June, 198;, pp. 157-160.

Petaluma Silk Mill

Front elevation of Carlson & Currier Co. Silk Mill, c189:

(Courtesy Petaluma Museum—photo P82-55.4)



Petaluma Silk Mill

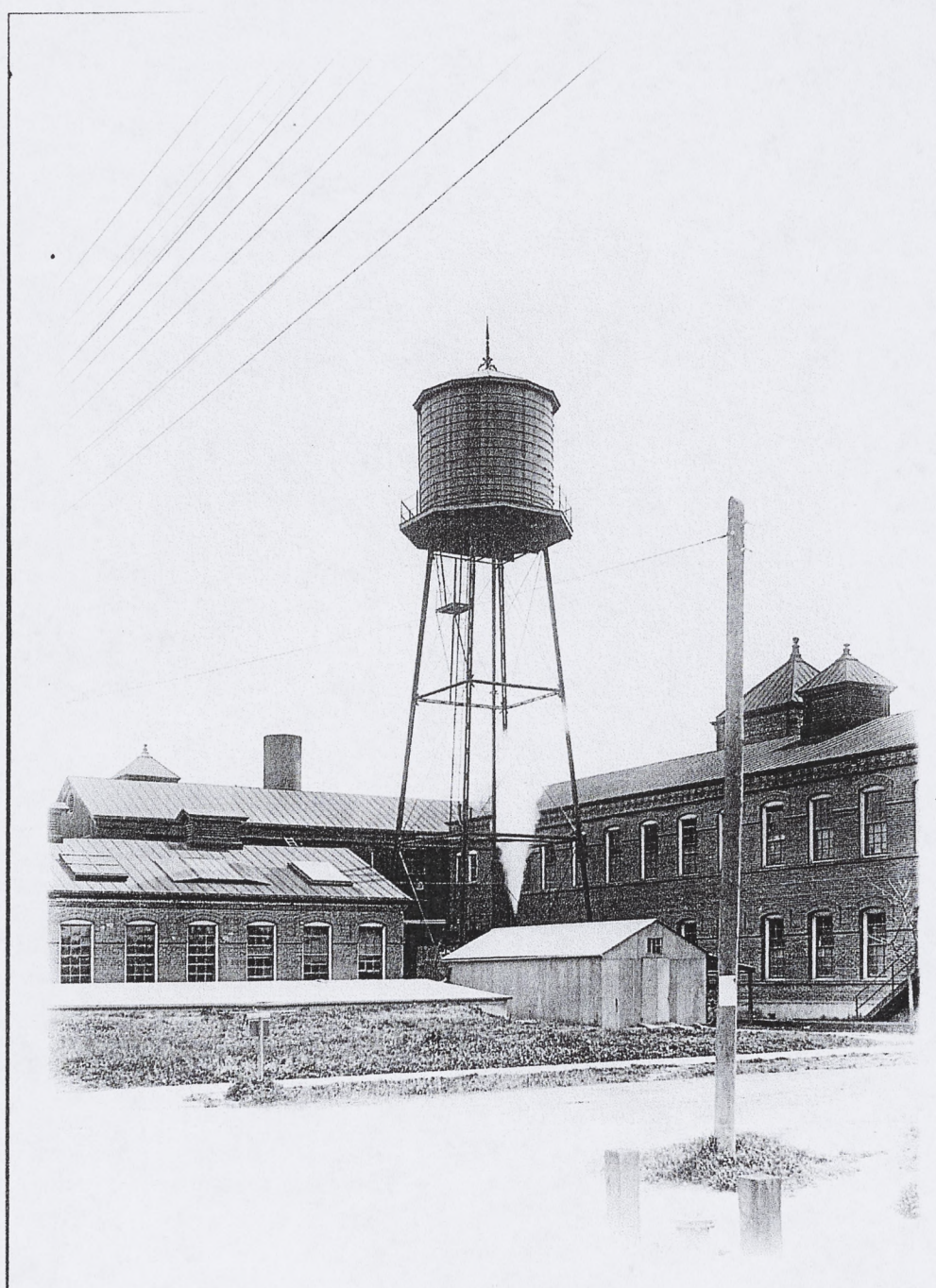
North tower, c1892

(Courtesy Petaluma Museum—photo 01-161-74)



Petaluma Silk Mill

North yard and water tower, c1912
(Courtesy Petaluma Museum—photo 79-6.35)



Petaluma Silk Mill

Mill interior, first floor, c1922

(Courtesy Petaluma Museum—photo 79-6.29)



Petaluma Silk Mill

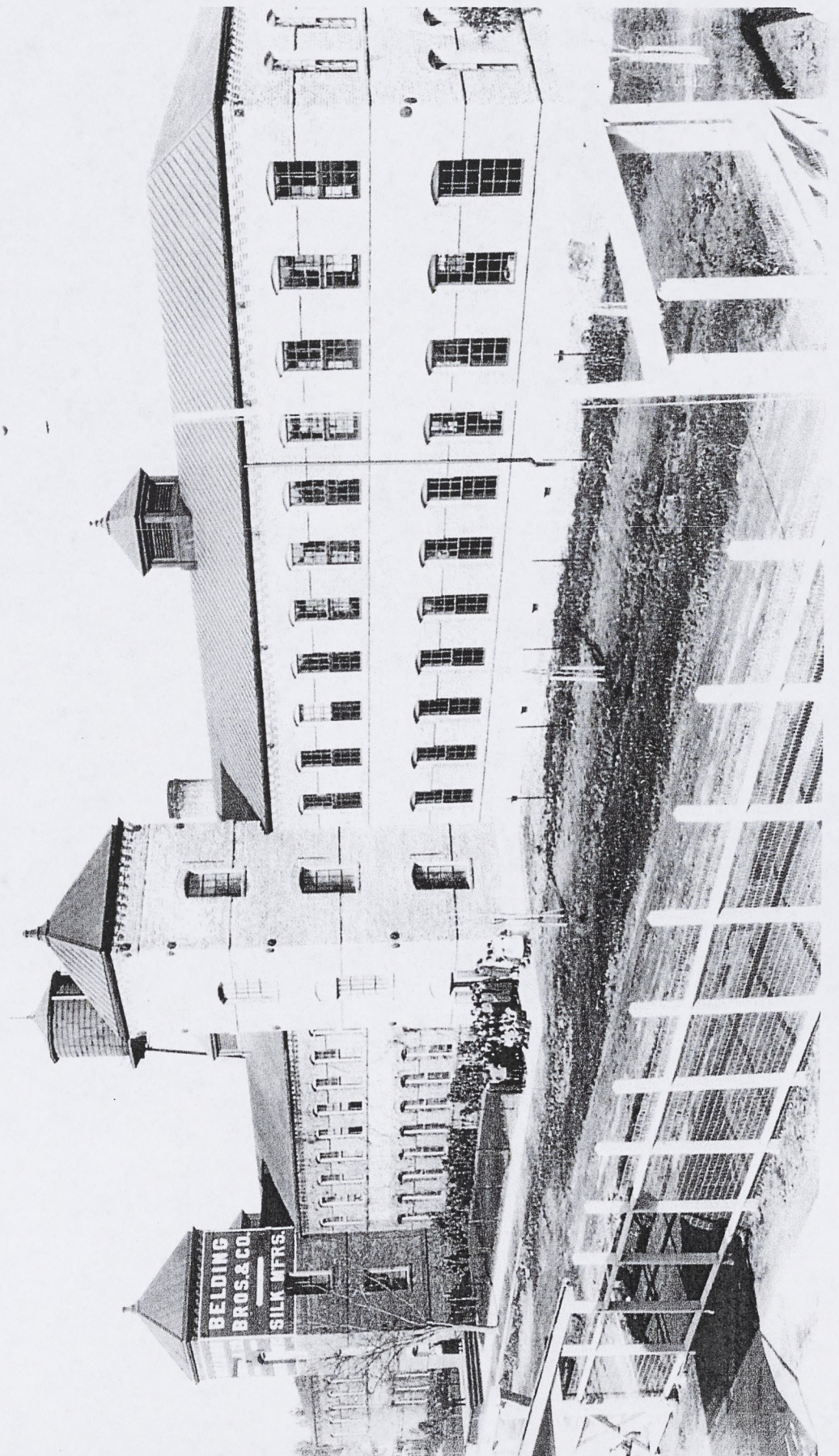
Mill interior, second floor, c1922

(Courtesy Petaluma Museum—photo 79-6.28)



Petaluma Silk Mill

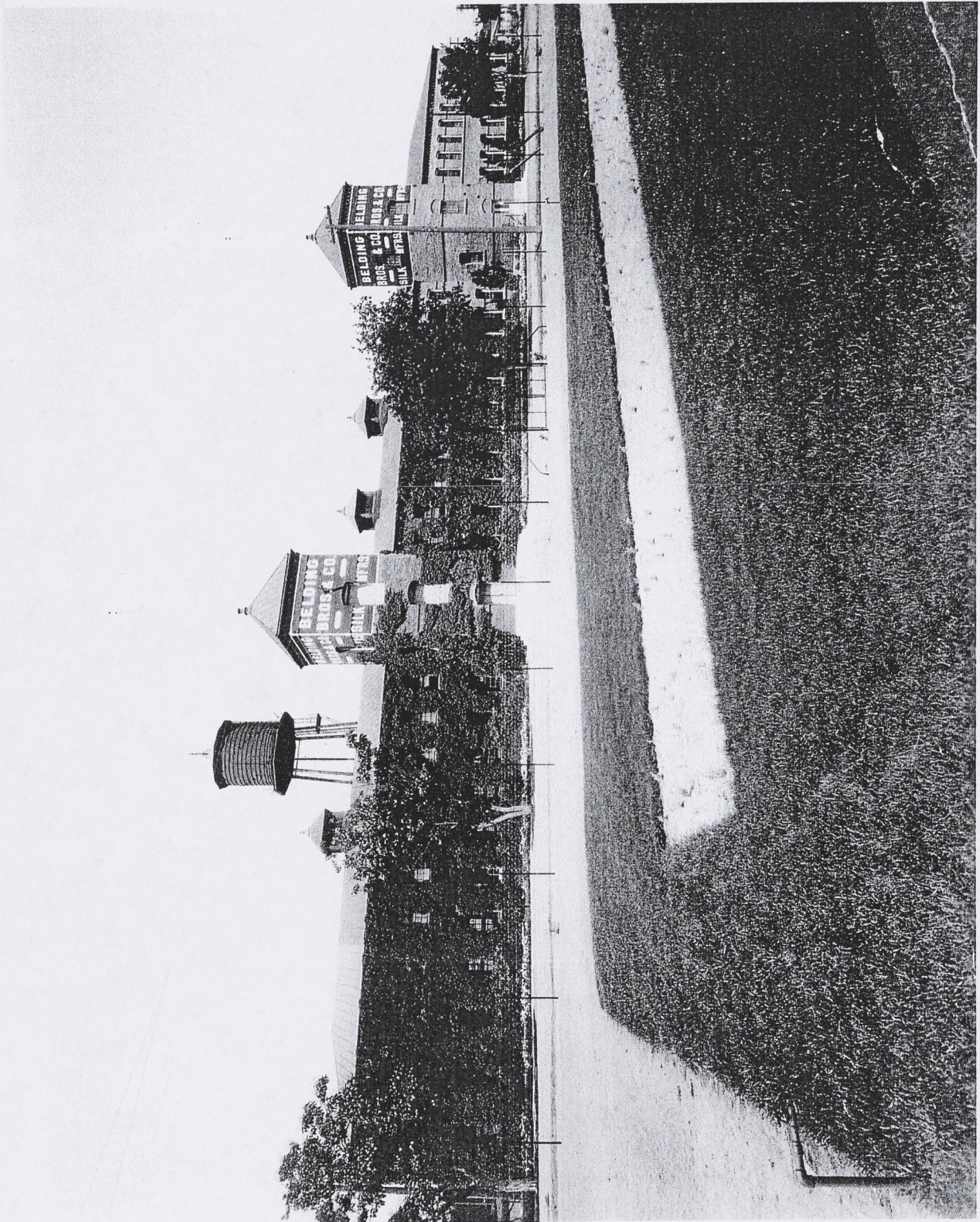
Front elevation of Belding Bros. & Co., c1922
(Courtesy Petaluma Museum—photo 2006-273-871)



Petaluma Silk Mill

North tower of Belding Bros. & Co., c1929

(Courtesy Petaluma Museum—photo P79-56.2)



Petaluma Silk Mill

Front (west) elevation of Belding Bros. & Co., c1892

(Courtesy Petaluma Museum—photo P79-56)



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date entered

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

RECEIVED

1. Name

JUL 30 1985

historic The Petaluma Silk Mill OHP
and/or common Carlson-Currier Silk Mfg. Co., 1892-1917; Belding-Heminway-Corticelli
1917-1940; Sunset Line & Twine Co., 1940-present

2. Location

street & number 420 Jefferson St. n/a not for publication
city, town Petaluma n/a vicinity of Congressional District #6
state CA 94952 code 06 county Sonoma code 097

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input checked="" type="checkbox"/> building(s)	<input checked="" type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input checked="" type="checkbox"/> commercial
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	<input checked="" type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted	<input checked="" type="checkbox"/> industrial
	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> no	<input type="checkbox"/> military
			<input type="checkbox"/> museum
			<input type="checkbox"/> park
			<input type="checkbox"/> private residence
			<input type="checkbox"/> religious
			<input type="checkbox"/> scientific
			<input type="checkbox"/> transportation
			<input type="checkbox"/> other:

4. Owner of Property

name Sunset Line & Twine Co.
street & number PO Box 691
city, town Petaluma n/a vicinity of state CA 94952

5. Location of Legal Description

courthouse, registry of deeds, etc. Sonoma County Administration Center
Office of the Recorder
street & number 585 Fiscal Dr.
city, town Santa Rosa state CA 95404

6. Representation in Existing Surveys

title Petaluma Historic Resource Inventory has this property been determined eligible? ☐ yes ☒ no
date 1978 ☐ federal ☐ state ☐ county ☒ local
depository for survey records Office of Historic Preservation, P. O. Box 2390
city, town Sacramento state CA 95811

7. Description

Condition		Check one	Check one	
<input checked="" type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site	n/a
<input type="checkbox"/> good	<input type="checkbox"/> ruins	<input checked="" type="checkbox"/> altered	<input type="checkbox"/> moved	date _____
<input type="checkbox"/> fair	<input type="checkbox"/> unexposed			

Describe the present and original (if known) physical appearance

The Petaluma Silk Mill is an industrial complex adjacent to the old waterfront area of Petaluma. The two story brick building is rectangular under a low hipped roof of sheet metal with standing seams. A pair of three-story square brick towers stands forth from the long many-windowed facade. Each tower has double doors at ground level and two windows above and each is topped by a pyramid roof, also sheet metal with standing seams. The original building, designed by pioneer San Francisco architect Charles I. Havens in 1892, had a central tower, and was half the length of the present structure. A silk vault, boiler plant, dyerroom, and other outbuildings not visible from the front, were also designed by Havens in 1892. Dimensions of the main building were 160' x 45'. The early extension of one wing, and the 1922 construction of a second tower and wing, increased the dimensions to 310' x 45', while maintaining styling compatible with the 1892 building. Subsequent alterations are

P The main building was built in two sections; the original 45' x 160' mill with its central tower is now the northwest section of the building. The southeast portion replicated the earlier tower in 1922, creating the present two-towered symmetrical appearance. Viewed from the front, the building's dominant towers are echoed by four square metal cupolas, with horizontal louvres in each face and pilasters at the corners, which line the roof ridge.* The pyramid cupola roofs, of standing seam metal and metal shingle, repeat the slope of the adjacent towers. The cupolas are topped by knobbed finials, and the towers by 30' flagpoles. A horizontal beam projects from the original tower below the roofline and was for lifting materials to the second floor.

Two rows of windows surround the two story building. They are double hung, wood framed, and 18-lighted, under arcs which fill the space between the rectangular windows and the low arc of brick coursing above them.

The brick is laid in a simple running pattern, broken by a series of brick courselines which encircle the entire building including the towers. Under the eaves, tiers of three bricks, spaced at brick length intervals, create a dentil effect. Broad courselines, three brick widths of running pattern projecting slightly from the surface, connect the windows of each row above their midlines and then rise to create, with a radiating pattern of three vertical brick ends, a flattened arch above each window. Narrow

*The original tower had a steeper pitch when built. It was damaged in the 1906 earthquake; when rebuilt, several additional courses of brick were added and the roof pitch was lowered. The 1922 tower repeats the post-1906 form of the earlier tower modified by earthquake repairs.

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Continuation sheet

1

Item number

7

Page 2

courselines of extended vertical brick ends surround the building immediately under each row of windows. Another projecting narrow brick courseline separates the building from its low cement foundation.

Window openings in the original tower are double-shuttered, one with wood, the other with metal. Window openings in the new tower are 16-lighted with wood frames. Three windows on the outer side of each tower, and two windows on the inner side, indicate the rise of staircases within the towers. Tower doors, which open onto low cement platforms, are double with opaque glass above low metal panels. The entrance to the original 1892 building was through its central tower door; neither tower is used as a primary entrance today.

A slight difference in brick color identifies the stages of the building's construction: the central tower and two wings of the 1892 building, the addition to the north after 1906, and the tower and south wing added in 1922. Another slight color variation on either side of the original central tower, between the two rows of windows, marks the site of the painted "Carlson-Currier Co. Silk Manufacturers" sign visible in early pictures. Today, above and around the upper window in each tower a painted black square, with white lettering and border, reads:

SUNSET
LINE & TWINE CO.
MFRS FISH
OF LINES

Two types of metal end-washers mark the end points of steel tie bars. Those on the main building are square with a raised 4-pointed star, those on the towers are round with a 5-pointed star. Their irregular placement, on both old and new wings, probably indicates that they were added after the last major addition to the building. Gutter tie-downs on the older portion of the building indicate that the roof of that section is original but that all gutters probably date from the 1922 addition. Visible from the front also are the tops of two rear structures: a round brick smokestack and the metal framework which once supported a 65' water tower.

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date entered

Continuation sheet 2

Item number 7

Page 3

Proceeding counterclockwise around the building, the south elevation is the end of the 1922 addition. Four windows on each floor are paired and highlighted with metal end-washers, both 4- and 5-pointed, above and between the window pairs.

Also from the south may be seen a two-story square projecting tower added with the 1922 wing, and some of the original rear buildings. A two-story brick structure, the "old silk vault," is connected to the main building. Behind and along side of it, also connected to the main building and so arranged that they appear to be a "T," are two two-story corrugated metal buildings under low gable roofs -- the old engine, coal, and boiler rooms. Each has the cupola and 18-lighted windows like those of the main building, but some windows have been replaced and a wide door has been cut.

Extending to the east is the one-story dye house under a low gable roof. A courseline around a row of 18-lighted windows replicates the pattern of the main building, but the brick has been plastered and painted with aluminum paint. The dye house may be reached through the other outbuildings, and it also has a loading dock to the street. There are fans in the gable end along the ridge. A shed has been added to one side. Two low cement reservoirs with corrugated roofing on either side of the dye house provided storage for rainwater used for dyeing the silk.

The north end of the main building is the post-1906 "new silk vault" addition. The silk vault occupied the first floor and was windowless with 26" brick walls on all four sides. Four second story windows are evenly spaced, not paired as on the end of the south wing. In 1922 when the second tower and new wing were added, windows and an outside door were cut in the thick walls and the building's primary entrance moved to the north end. Two wide plate glass windows are lettered in gold, "Sunset Line & Twine Company." Between them, the entrance is deepset and is reached by cement steps which begin flush with the building; there is no exterior porch. The door itself is wood with full glass panel and small vertical panels on each side below a transom extending the width of the recessed entrance.

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Continuation sheet

3

Item number

7

Page

4

From the office another door leads through the interior 26" brick wall to the original building. There, beyond some partitioned office space, the mill workspace extends the length of the building. Original construction details are visible. Two rows of slender turned oak bolsters reach 12' to the ceiling where floor joists of the second floor are visible. Banks of electrically powered machinery for braiding cord, and a few pieces of occasionally used older machinery, are set upon original 3 1/2" tongue and groove floors. The inner brick wall is visible and, reflecting the outside detail, wooden lentils are slightly arched above the flat tops of the windows.

Both second floor and attic run the length of the main building; the second floor is used for packing and storage of materials and the attic is used for miscellaneous storage. Air circulates through the cupola vents into the attic. A sprinkler fire extinguisher system is located in the attic and throughout the building.

Towers are open and provide vertical access. Construction details of the two towers vary. The older tower has a notable metal railed staircase, in contrast to the utilitarian cement staircase of the newer tower. Within the older tower may be seen evidence of the addition of nine rows of brick just under the eaves. Earliest pictures show a steeper pitch to the central tower pyramid roof; at the time the pitch was reduced, the tower itself may have been heightened.

The old silk vault, entered from the main building, is now primarily used for storage. Again the inner brick wall is visible, and the triple vaulted ceiling is also brick. Connecting engine, coal, and boiler rooms now provide additional work space. Floors here and in the dye house are cement. Original brick walls of the dye house have been cemented over. Some original fixtures remain and the building still houses some dye related activities, in addition to miscellaneous storage. The second stories of the outbuildings has been adapted to provide modern cafeteria and lounge facilities.

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Continuation sheet 4

Item number 7

Page 5

Landscaping is minimal with grass and a few small trees in front. Ivy and Virginia creeper cover much of the older portion of the building. A simple low wire fence extends from the tower entrances across the width of the property. Cyclone fencing defines the border shared with commercial property to the south, and extends around the rear. There, space between the new wing and projecting outbuildings is unpaved and used for loading and parking and also contains an imposing Canary Island palm tree. Similar space behind the older wing is enclosed and used for miscellaneous storage.

The mill is located on a block bounded by Erwin Street in front, Wilson Street in the rear and Jefferson Street alongside the north wing entrance. Lakeville Highway curves widely in front of the building; Erwin Street terminates where it would intersect Lakeville, and so is without traffic. Across Erwin is Sunset Park with picnic tables, a drinking fountain, and paths bordered by old Petaluma cobblestones. Beyond the park and Lakeville Highway is the McNear Canal where, visible at low tide, is the historic relic of the steamer Petaluma (originally the Resolute) which, with its cargo including silk products valued at \$2000, was destroyed by fire in 1914.

Original plans and blueprints, listed in the appendix, are being preserved and will become available for study. Historic photographs, also in the appendix, show the architecture and the siting of the mill from its construction to the present time.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input type="checkbox"/> 1800-1899	<input checked="" type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input checked="" type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1892 /1906/1922

Builder/Architect Charles I. Havens ; alterations by
Brainerd Jones

Statement of Significance (in one paragraph)

Since 1892 the Petaluma Silk Mill, now Sunset Line & Twine Company, has been a prominent architectural landmark of the Petaluma industrial waterfront. Charles I. Havens (1849-1916), pioneer San Francisco architect, designed the industrial building,

reminiscent of the Victorian New England mills.

The enlargements, the first after the 1906 earthquake and the second in 1922, designed by noted Petaluma architect Brainerd Jones, were in compatible styling with the earlier portion of the mill. Sericulture, and more successfully, silk manufacturing were late 19th century manifestations of efforts in California to develop industry in the state. When San Francisco's Carlson-Currier Silk Manufacturing Company announced plans to relocate, in the early 1890's, enterprising Petaluma businessmen launched a successful community campaign to entice the mill to their growth-minded river town. Since then, the Old Silk Mill has symbolized industrial Petaluma, and its products have carried the town's name nationwide. First came silk thread and fine sewing products of Carlson-Currier and its successors; since 1940 the Sunset Line & Twine Company has produced silk and synthetic fishing lines and more recently specialized natural and synthetic cords and tapes for industry and government. Numerous periodical references attest to the mill's historic role in the community. The evolution of the building is amply documented by original drawings, blueprints, and a series of historic photographs.

United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only

received

date entered

Continuation sheet 5

Item number 8

Page 2

The red brick Carlson-Currier silk mill, its steeply roofed three story tower visible throughout the young agricultural market town, became an immediate Petaluma landmark. The building is reminiscent of the Victorian textile mills of England and New England. Though two-storied in contrast to the mostly many-storied English and New England mills, the Petaluma Silk Mill is similar in its regular symmetry, the dominating external central tower of the original 1892 building, and its brick construction.

The external tower had been pioneered in such mills as Allendale, New Providence RI, in 1822. Its advantages were several. Moving the inside staircase to the outside tower provided more open floor space, especially valuable when power was delivered by overhead belt. Materials could be transported to upper floors by way of the more generous outside stairs or by pulley and line from a beam projecting from the tower. Fire danger was lessened with the removal of the inside vertical stair shaft. Vertical air circulation within the tower itself made it a logical site for toilet facilities.

Masonry, and brick when available, had become widely used in Eastern mill construction because they offered greater fire protection and also provided stability for the increasingly heavy machinery.

Carlson-Currier's hipped roof contrasts with the gable roof more typical of mill construction, yet provided ample height and length in the upper floor. The Petaluma mill's many windows provided sufficient light to the work area without a monitor row. (1)

These features were incorporated into the 1892 building and were maintained as additions were made after the 1906 earthquake and again in 1922. Changes are documented by historical photographs, blueprints, and

United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only

received

date entered

Continuation sheet 6

Item number 8

Page 3

the original building plans signed by representatives of Carlson-Currier, the contractor, and architect Charles I. Havens.

In 1892, the year he designed the Petaluma Silk Mill, Charles Havens had been in practice for ten years. San Francisco City Directories indicate that he was first associated with Peter R. Schmidt. He established his own practice in 1886; from 1896 until his retirement in 1913 he was senior partner in the firm of Havens & Toepke. Havens' office in 1892 was at 55 Flood Building, and that year his listing in the City Directory included the notation, "Architect, New City Hall."*

Among Havens' San Francisco works constructed prior to 1892 is a residence at 1381 South Van Ness, built in 1884 for his own use and today an inn. It is mentioned in Here Today and was included in a 1980 Victorian Alliance House Tour, as was the 1885 residence he built for John F. English at 943 South Van Ness. The James Scobie residence at the corner of Fell and Steiner, built by Havens in 1891, is now known as the Ohlandt House and is part of the recently designated Alamo Square Historic District.

Havens and Toepke designed three buildings included in Splendid Survivors: the 1908 Maskey Building, the 1909 Bartlett Doe Building, and the 1913 Flatiron Building. Works no longer standing include the San Francisco Yacht Club of 1897, the San Mateo Elks Lodge, Mission High School, and the old Tanforan Racetrack buildings. Significant Havens works are listed, with information sources, in the Appendix.

Havens' buildings over the decades may be said to be reflective of their times, including the 1880 residences of Victorian stick and the 1890's Queen Anne with various embellishments. Undated homes pictured in California Architect & Engineer include bungalow, "picturesque," and elaborate Italianate. Downtown buildings evaluated in Splendid Survivors include Gothic and Renaissance/Baroque ornamentation "verging on the Art Nouveau." The Flatiron Building is probably his most notable and is said to

**He would have been one of many who participated in the 25 year construction of San Francisco's ill-fated third city hall.*

United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only
received
date entered

Continuation sheet 7

Item number 8

Page 4

foreshadow the Halladie in its cornice. (2)

Havens' death April 28, 1916, in Kenwood in Sonoma County, was reported in San Francisco, Santa Rosa, and Petaluma newspapers of that day, and in California Architect and Engineer of May, 1916. The obituaries agree in describing Havens as "pioneer architect," "one of San Francisco's foremost architects in the early days," and one who participated in the rebuilding of San Francisco after the earthquake.* He was admitted to the AAIA in 1901 and was a member of the San Francisco chapter AIA. (3)

The Petaluma Silk Mill is not mentioned in Havens' obituaries, nor is it included in California Architect and Building News (CABN), although Havens often listed his buildings. However, Havens' design of the Petaluma mill is documented by: a bond dated March 11, 1892, in which Carlson-Currier Company contracted with a group of Petaluma citizens to proceed "with all reasonable diligence" to complete a silk mill in Petaluma; drawings and plans for the building, dated March 14, 1892, and signed by Havens, J.P. Currier, and Hedges and Paff, contractors; and the October 19, 1892 Petaluma Courier article naming Havens as the architect and illustrated by Havens' drawing of the building (said to be complete and almost ready to begin production).

The signatures "Hedges" and "Hedges & Paff" on the Havens plans are those of the contractor. The Paff Brothers appear in San Francisco city directories between 1890 and 1894 listed variously as carpenter, contractor, and architect. Ed Hedges was a Petaluma lumber dealer and Camm & Hedges Lumber Yard became a substantial local firm.

**Some also state that he was "school board architect," others say "city architect," for twelve years. These designations are inaccurate; the former title did not exist and he held the latter for just one year as architect for the City Hall Board. Havens did build many schools as listed in California Architect and Building News.*

United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

For NPS use only

received

date entered

Continuation sheet 8

Item number 8

Page 5

Hedges & Paff had offices at Hinshaw's New Block, Washington Street in 1891 (4) and in 1892 also built "a \$5000 residence on his ranch" for H. Mecham. (5)

Brainerd Jones, Petaluma architect of the period 1898-1930, designed later additions to the building. Jones designed many recognized heritage homes in Petaluma and Santa Rosa, often characterized as Transitional and incorporating Craftsman detailing and columns. His public buildings are more frequently Classical Revival and include several schools, a downtown business block, the Elks Hall, and Carnegie libraries in Petaluma and Healdsburg.

Construction of a silk mill in Petaluma represented the intersection of several historical developments including efforts to develop on the West Coast a new center for sericulture and silk manufacture; improvement of rail and water transportation, and energetic community entrepreneurship.

Efforts in California to develop sericulture, the cultivation of silk worms and of the requisite mulberries, had begun as early as 1854, but early success had proved temporary. Silk manufacture, using the raw product imported from the Orient, fared somewhat better. However Hittell reported that of the half dozen establishments begun during the 1870's, most had closed or redirected their efforts by the 1880's. One that thrived was the California Silk Manufacturing Company. First listed in the San Francisco Directory in 1871, they produced a variety of threads worth \$150,000 a decade later. (6) When their building was destroyed by fire in 1881, "the stock, trademarks, etc." were purchased by Edward Carlson and J.P. Currier who "enlarged the factory by adding the best machinery available." (7)

United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only

received

date entered

Continuation sheet 9

Item number 8

Page 6

Industries of San Francisco (1884) offers undocumented biographical information about the partners: Carlson, a native of Germany, held positions as Chief Clerk in the United States Quartermaster's Department and, for one term, as Deputy State Treasurer of California, before entering the silk business in 1875; Currier, a New Hampshire native, came to California as representative of Belding Brothers & Co. of Chicago. From the beginning, Carlson-Currier were agents for that firm, among others.

Meanwhile, 35 miles to the north, East Petaluma was the aspiring new industrial frontier of a rapidly growing Petaluma, from which it was separated by the navigable tidal estuary known as Petaluma Creek.* The land east of the creek had been part of General Mariano Vallejo's Petaluma grant which by 1855 was being reduced by sale to enterprising American settlers, among whom was Thomas Hopper. Many in turn divided and resold; Hopper is represented in the Sonoma County Index to Deeds (Grantor) by over 35 transactions between 1855 and 1858. He and partners built a drawbridge to replace the older bridge across Petaluma Creek at the foot of Washington Street. The creek channel was narrowed at that point and the land east of the creek, subject to periodic flooding, was raised by "rich tribute from the hills" spread over the land. (8) East Petaluma was included in the city as incorporated in 1858.

East Petaluma included small lots to accommodate housing, but industrial development was foremost. Petaluma Ice & Storage, built in 1880, became Petaluma's first provider of electricity. Entrepreneur John A. McNear's canal was planned to shorten the water route and avoid much of the upstream silting problem that plagued the winding estuary.(9) At the head of the canal turning basin the Steamer Gold Landing was sited. The Petaluma and Santa Rosa Railroad terminated at the Landing, and the San Francisco and North Pacific also served East Petaluma.

On August 19, 1891, the Petaluma Courier, under the heading "For a Silk Mill," reported that a meeting of citizens, including John A. McNear and H.T.

**Today, "East Petaluma" refers to the area east of the Freeway, and the Silk Mill is a feature of "Old East Petaluma."*

United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

For NPS use only

received

date entered

Continuation sheet 10

Item number 8

Page 7

Fairbanks, had met to "to discuss the advisability of having the Belding Silk Company locate its works here, as it was determined to move away from San Francisco." (Carlson-Currier was not named in the original article.) A committee was appointed "to call upon the people and secure the necessary inducements." Subsequent articles called attention to the benefits the factory would bring to the city: employment, especially for women and children; increased business for other merchants; the inducement for other factories to locate in Petaluma. At first it was also believed that sericulture would be developed to the benefit of local agriculture. Public functions were held to boost contributions, with prizes offered to larger subscribers. The amount sought was not stated in the press, but on December 18, with \$2000 to go, McNear admonished those capitalists who were "so very niggardly about putting up some coin." (10)

Sonoma County records show that across from the Steamer Gold Landing, "the northerly quarter" of East Petaluma Block 21 (lots 11, 12, 13, 19, 20, 21, 22, and 24) were purchased from J.A. McNear by the Carlson-Currier Company of San Francisco on February 23, 1892, for \$1500 gold coin of the USA." (11) A contract was recorded in Sonoma County on March 11, 1892, between "certain citizens of Petaluma and vicinity . . . through their Trustee, H.T. Fairbanks" and the Carlson-Currier Company. The contract called for timely construction of the factory and average yearly employment of "one hundred white persons" for a period of five years which would be extended in case of interruption due to "fire, strikes, epidemics or other unavoidable causes." (12) On March 14, 1892 Havens, Currier, and Hedges signed the plans. The Petaluma Courier Special Edition of October 19, 1892, featured the "recently completed silk factory," which had been the scene of a dedication ball on October 11. (13, 14). By 1896, 88 tons of products related to the manufacture of silk represented the single most valuable article of commerce on the Petaluma Creek. (15)

**For failure to adhere to terms of the contract, the company was to reconvey to the trustees the unencumbered deed and building, or \$9000 (75% of its guaranteed insured value.)*

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form

For NPS use only

received

date entered

Continuation sheet 11 Item number 8 Page 8

Industries of San Francisco (1889), the Petaluma Courier in 1891 and 1892, and a 1910 article in The Monitor of San Francisco, provide considerable information about Carlson-Currier machinery, capacity, and products in both their San Francisco and Petaluma locations. The Courier Special Edition is especially detailed, but perhaps speculative because production had not yet begun in Petaluma. Costs were reported to be \$35,000 for the building and \$30,000 for the machinery.* The San Francisco mill had been "operated by about 75 girls and boys who are thus enabled to obtain some means of support," and the 85 employees were said to share a \$2800 monthly payroll. The 1910 writer found in Petaluma "hundreds of men and women employed... under conditions that as far as we could see could not be improved upon. Reasonable hours, good pay, large well ventilated workshops prove that the material welfare of the employee is a matter of concern, as well as good business to this firm."**

The dedication of the new Petaluma Silk Mill was described in the Special Edition of the Courier, October 19, 1892. J.P. Currier spoke as president of the firm. Edward Carlson is not thereafter mentioned, nor does he appear in subsequent San Francisco directories, though the firm continued as Carlson-Currier with its main salesroom in San Francisco.. The 1915-6 directory lists Belding Bros. of California as successors to Carlson-Currier, and Belding purchased the Petaluma mill property in 1917. Later corporate mergers added Heminway and Corticelli to the firm name. Silk manufacture was discontinued at the site in 1929 but the plant continued in operation. In 1940 Sunset Line & Twine Co. of San Francisco purchased the building and has since manufactured there. From the beginning, local managers have been prominent in the area: Frank Brown, manager from 1892 til 1923; Jasper Woodson, a mayor of Petaluma, manager from 1923 until after the purchase by Sunset; the Agnew family since that time.

* Among the blueprints listed in the appendix is the plan by Jos. Wagner Mfg. Co., San Francisco, for the overhead shaft and power delivery system.

** In fact, labor problems had already developed (16), and were to occur again in the 40's.

United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only
received
date entered

Continuation sheet 12

Item number 8

Page 9

The building too underwent change. Petaluma experienced little damage in the April 18, 1906 earthquake,* though subsequently parts of some buildings were condemned and others, including the new Carnegie Library, were temporarily closed. On April 23 it was announced that Architect Brainerd Jones and Contractors Rodd and Straddling had pronounced the silk mill ready to open; the tower, however, was not to be used. The mill resumed operations on April 24. On April 25 the newspaper headlined "A Big Addition to Silk Mill," reporting that a contract had been awarded to W.C. Straddling for construction of a fireproof brick wing and replacement of the damaged tower; the big brick chimney, apparently also damaged in the quake, was not to be replaced. Brainerd Jones designed this addition (the "new silk vault addition"). Tower repair included new brickwork at the top and substitution of a less steeply pitched roof. (17) No documentation has been to date the new construction, but existing sprinkler system blueprints indicate it had been completed by 1912.

Other blueprints indicate a modest addition was designed in 1921 by Brainerd Jones. But in 1922 business was thriving (18) and instead, the building was almost doubled in size and its original symmetry restored by the addition of a second tower and wing. This addition too was designed by Jones.** These and other plans have been preserved by the present owners of the building and are listed in the appendix.

* *The earthquake may have at seemed at first an anticlimax after the fire of April 17, which destroyed the "monster and splendid" Petaluma Tanning Company and threatened to engulf all of East Petaluma. At the adjacent silk mill, stored spools and boxes were on fire several times, and silk mill employees were among those who limited the spread of the fire.*

** *His plans include the notation: "All new work must conform with that of present structure. In case of conflict between the Present Building and the Drawing, the Present Building to govern, excepting as to additional structural strength. Floor heights and similar points to correspond with those of present building."*

United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only

received

date entered

Continuation sheet 13

Item number 8

Page 10

Also in the appendix are miscellaneous unique documents related to the history of the mill. A year after the move to Petaluma, Carlson-Currier was among the many Sonoma County exhibitors at the California Midwinter International Exposition in Golden Gate Park, with displays of "silk cocoons, skeins, spools and cloth." (19) A "spool silk battleship was apparently also a part of that display, as depicted on a card in the collection of Ed Mannion, Petaluma historian.

Carlson-Currier figured in the 1912 "first commercial transcontinental truck delivery" sponsored by the American Locomotive Company, builders of the ALCO truck. After a 95-day, 4143-mile trip, Parrot Brand Olive Silk Soap from Philadelphia was delivered to Carlson-Currier in Petaluma. The trip is documented in the Commercial Car Journal, June 3, 1981; photographs from the Mannion collection also document the delivery.

Sunset Line and Twine has carried on the tradition of making news. Local and regional newspapers noted its commission to manufacture a special cording for use in the astronaut program. (20) More recently, the Smithsonian National Air & Space Museum has asked them to produce a small amount of braided cord to be used in the restoration of the Fred Wiseman airplane. In 1911 on a flight from Petaluma to Santa Rosa, the Wiseman plane was the first to transport stamped mail. (21)

This latest recognition extends the long history of Petaluma's pride in its Silk Mill. It is featured whenever Petaluma architecture, industry, or enterprise is the subject. (22) The historic Petaluma Silk Mill, designed to accommodate the spinning and twisting of silk for fine stitchery, today fulfills specialized requirements of industry and government, continuing to justify the efforts of early entrepreneurs to locate the mill in Petaluma.

ENDNOTES

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United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only

received

date entered

Continuation sheet 14

Item number 8

Page 11

2. Michael R. Corbett, Splendid Survivors: San Francisco's Downtown Architectural Heritage (San Francisco: A California Living Book, 1979), pp. 79.
3. Levy, Florence N., ed., American Art Annual, Vol. IV, 1903-4 (New York: American Art Annual, Inc., 1903, p. 113.
4. Advertisement, Petaluma Argus, December 18, 1891.
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10. Petaluma Courier, articles dated 8/19/91, 11/4/91, 11/18/91, 12/2/91, 12/10/91, and 12/18/91.
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16. Petaluma Argus, 8/22/01, 4/25/03.
17. Petaluma Argus, 4/17/06 - 5/8/06
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19. Illustrated Atlas of Sonoma County California (Santa Rosa CA: Reynolds & Proctor, 1897), p.33.
20. Santa Rosa Press-Democrat, 7/6/69; San Francisco Chronicle, 3/31/71.
21. Letter, Garry L. Cline, National Air & Space Museum, Smithsonian Institution, to John Agnew, Sunset Line & Twine Co., June 14, 1984;

United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only

received

date entered

Continuation sheet 15

Item number 8

Page 12

"Flying off into the Sunset," Petaluma Argus-Courier, August 25, 1984
(sic; actual date August 18, 1984), p.1.

22. "Sunset Line & Twine A Vital Part of City's Business History,"
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2-4.

9. Major Bibliographical References

See attached.

10. Geographical Data

Acres of nominated property 1.2 acres

Quadrangle name Petaluma

Quadrangle scale 1:24000

UTM References

A

1	0
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5	3	2	4	2	0
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4	2	3	1	9	1	0
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Zone

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B

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Zone

Easting

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H

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Verbal boundary description and justification A rectangular lot 157.5'x335' bound on the north by Jefferson; on the east and west by Wilson and Erwin, and on the south by a line from Wilson to the end of Erwin. AP#007-163-02. Recorder's Office Official Records #0500-196. Boundaries are drawn on lit lines which encompass the historic resource.

List all states and counties for properties overlapping state or county boundaries

state	n/a	code	county	n/a	code
-------	-----	------	--------	-----	------

state	code	county	code
-------	------	--------	------

11. Form Prepared By

name/title Lucy Kortum

organization (Sonoma State University)

date September 1984

street & number 180 Ely Rd.

telephone 707/762-6219

city or town Petaluma

state CA 94952

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

☐ national ☐ state ☐ local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature

title State Historic Preservation Officer

date

For NPS use only

I hereby certify that this property is included in the National Register

date

Keeper of the National Register

Attest:

date

Chief of Registration

United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only
received
date entered

Continuation sheet 16

Item number 9

Page 1

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United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only
received
date entered

Continuation sheet 17

Item number 9

Page 2

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United States Department of the Interior
National Park Service

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only

received

date entered

Continuation sheet 18

Item number 9

Page 3

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**National Register of Historic Places
Inventory—Nomination Form**

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Continuation sheet 19

Item number 9

Page 4

Sunset Line & Twine Company

Newspaper articles:

"Mayor Jasper S. Woodson." Petaluma Argus-Courier, 8/9/37.

"Twine Major Industry at Petaluma." Santa Rosa Press-Democrat,
6/26/60.

"Sunset Caters to Nation's Anglers." Petaluma Argus-Courier
Centennial Edition.

"Sunset Line & Twine Plans to Modernize Local Plant." Petaluma
Argus-Courier, 1/14/65.

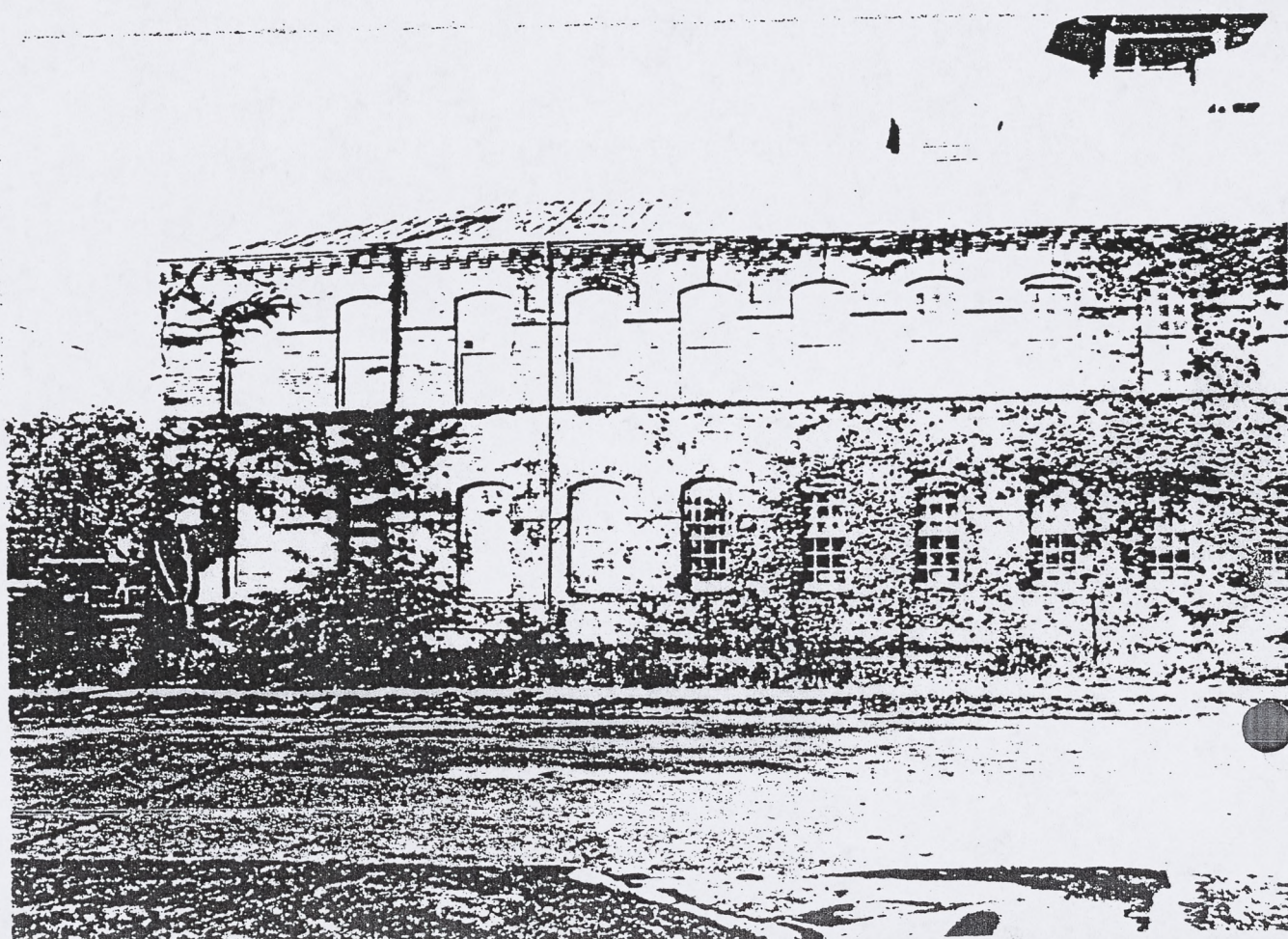
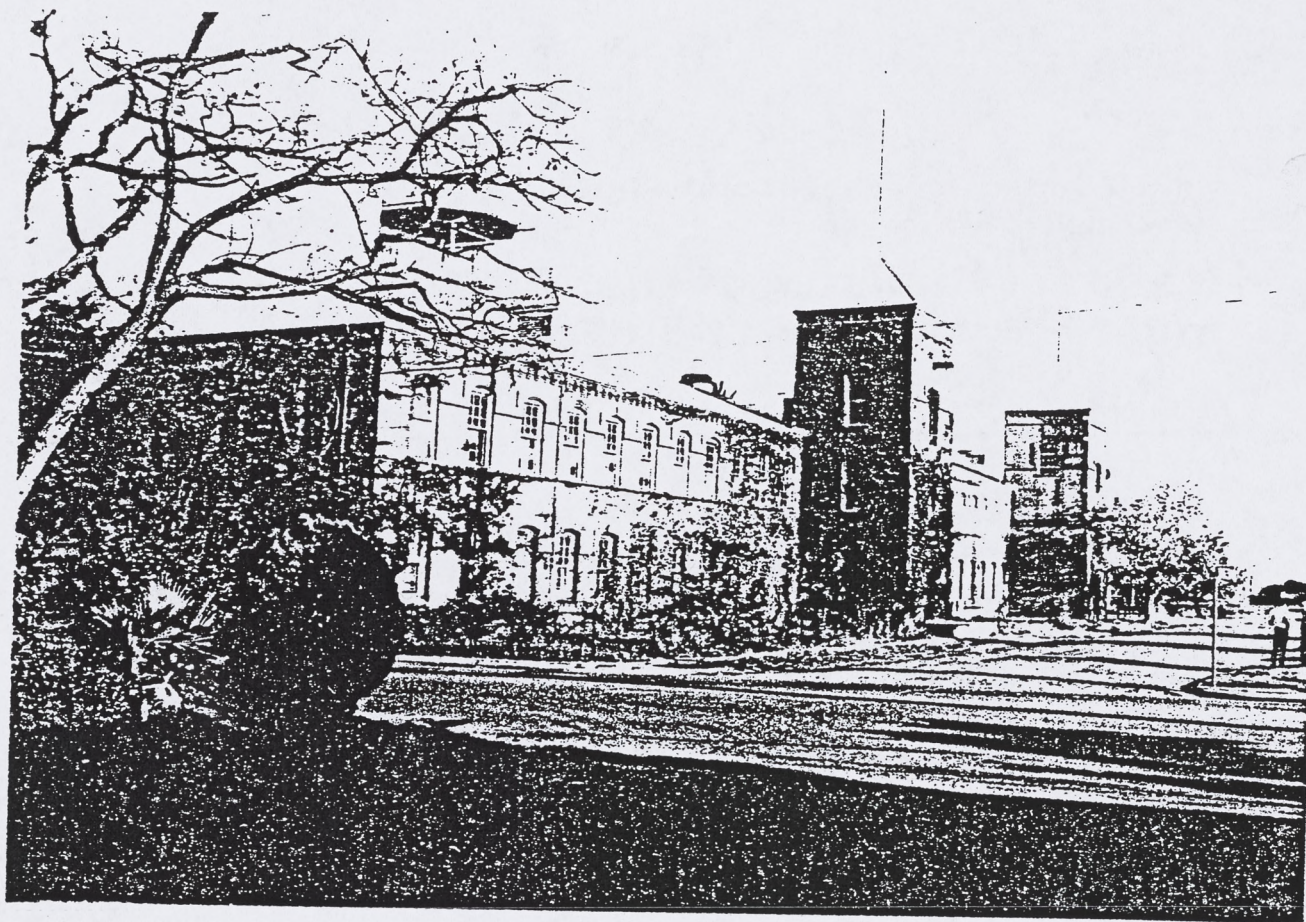
"Petaluma Firm Conducts Own Countdown on Apollo Shot." Santa Rosa
Press-Democrat, 7/6/69.

Apollo reference in Herb Caen, San Francisco Chronicle 3/31/71.

"Sunset Line & Twine a Vital Part of City's Business History."
Petaluma Argus-Courier, 4/26/80.

"Flying off into the Sunset." Petaluma Argus-Courier, 8/25/84. (page
incorrectly dated; 8/18/84)

Letter, Garry L. Cline, National Air & Space Museum, Smithsonian
Institution, to John Agnew, Sunset Line & Twine Co., 6/14/84.

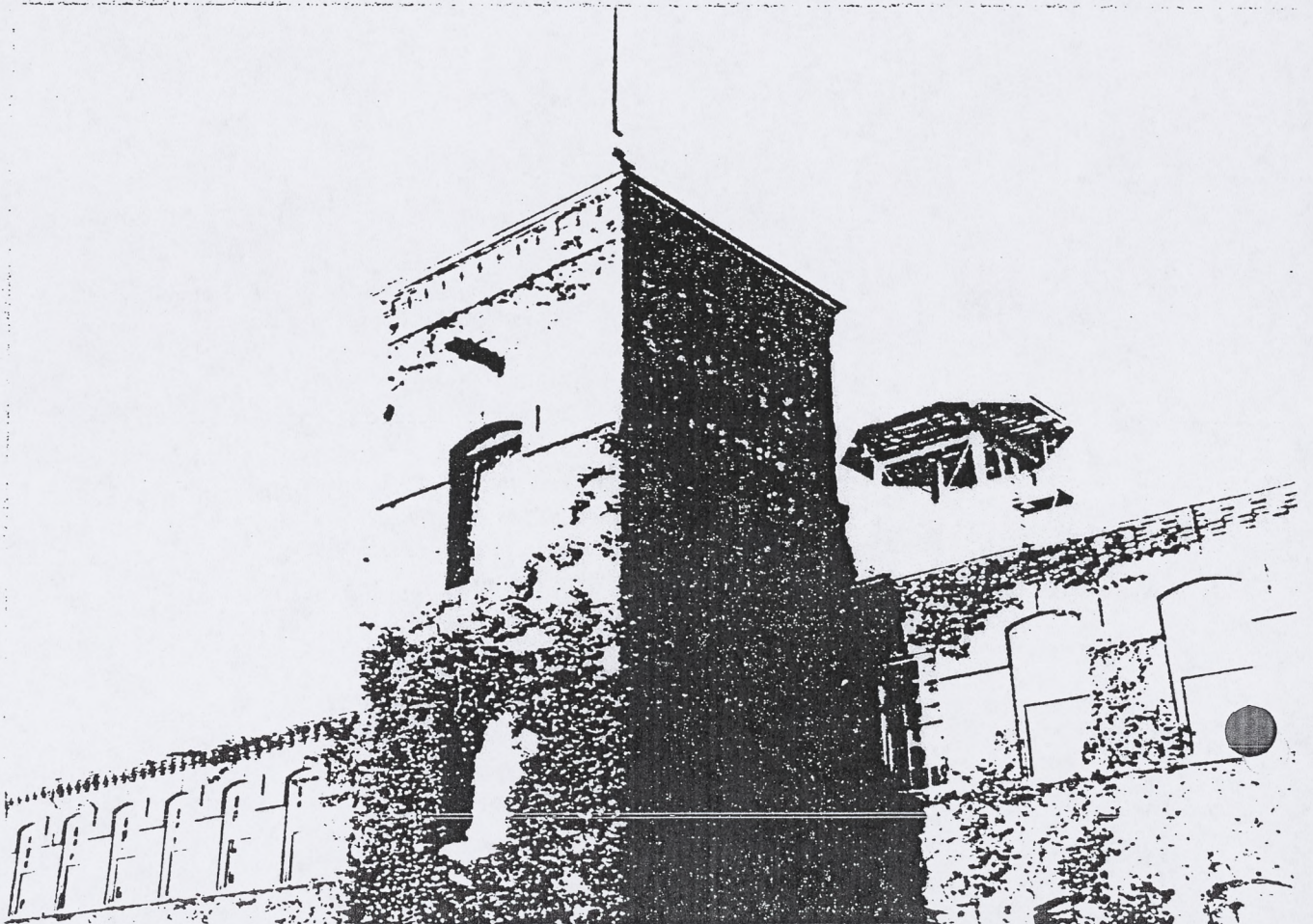
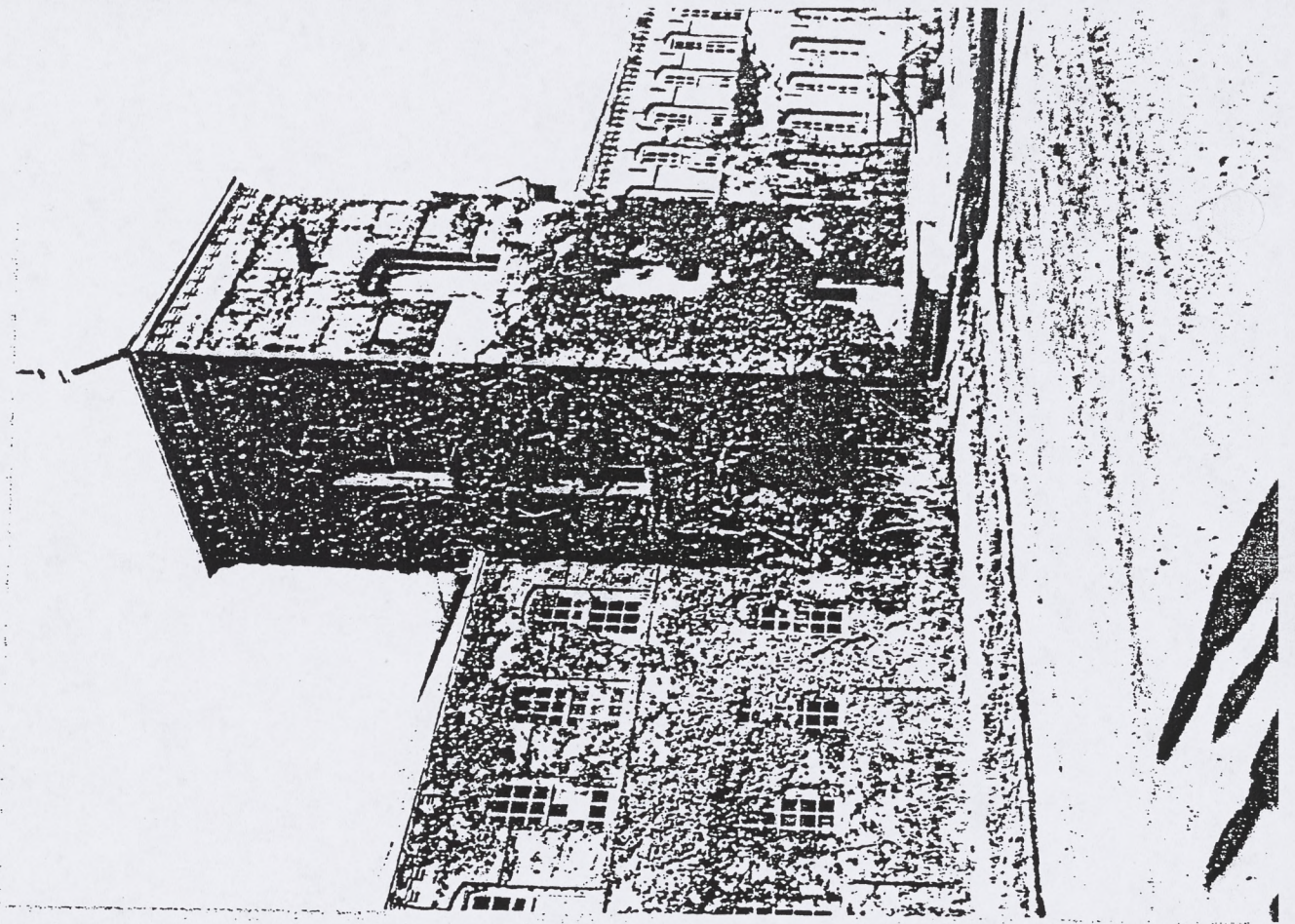


#1

1. Petaluma Silk Mill (Carlson-Currrier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Max Durney
4. November 22, 1984
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing southeast. Front and north wing from intersection of Erwin and Jefferson.
7. (1:4) #1 of 12

#2

1. Petaluma Silk Mill (Carlson-Currrier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Max Durney
4. November 22, 1984
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing east. Front of old wing, across Erwin St. from Sunset Park. Last two windows identify the "new silk vault addition" after 1906; upstairs windows date from that addition. The silk vault was downstairs, windowless, with 26" walls; downstairs windows were cut through at the time of the 1922 addition of new wing and tower. Also visible is the lighter area of the old "Carlson-Currrier" sign above the first story windows.
7. (1:5) #2 of 12

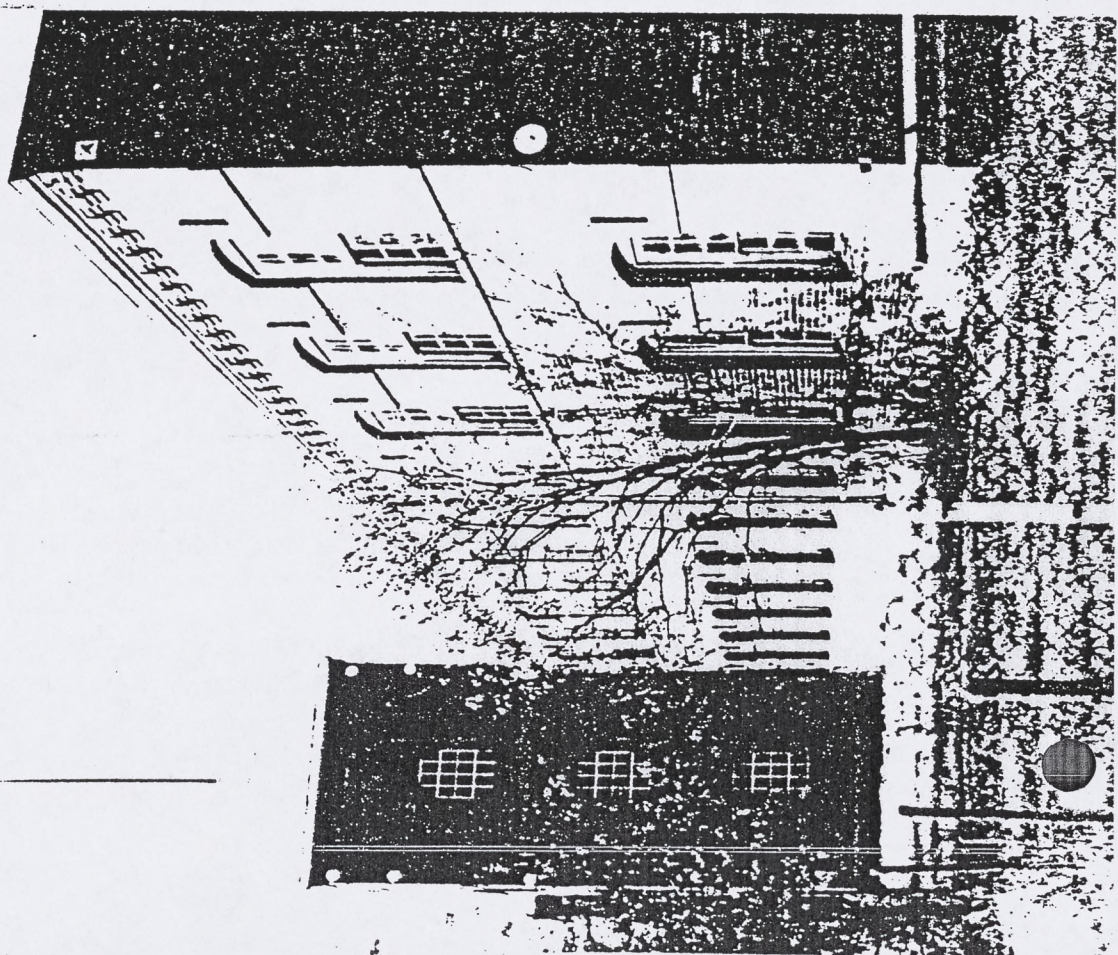


#3

1. Petaluma Silk Mill (Carlson-Currier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Max Durney
4. November 22, 1984
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing southeast. Front, original central tower showing projecting beam.
7. (1:3) #3 of 12

#4

1. Petaluma Silk Mill (Carlson-Currier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Max Durney
4. November 22, 1984
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing northeast. Front, looking at south face of original tower.
7. (1:7) #4 of 12

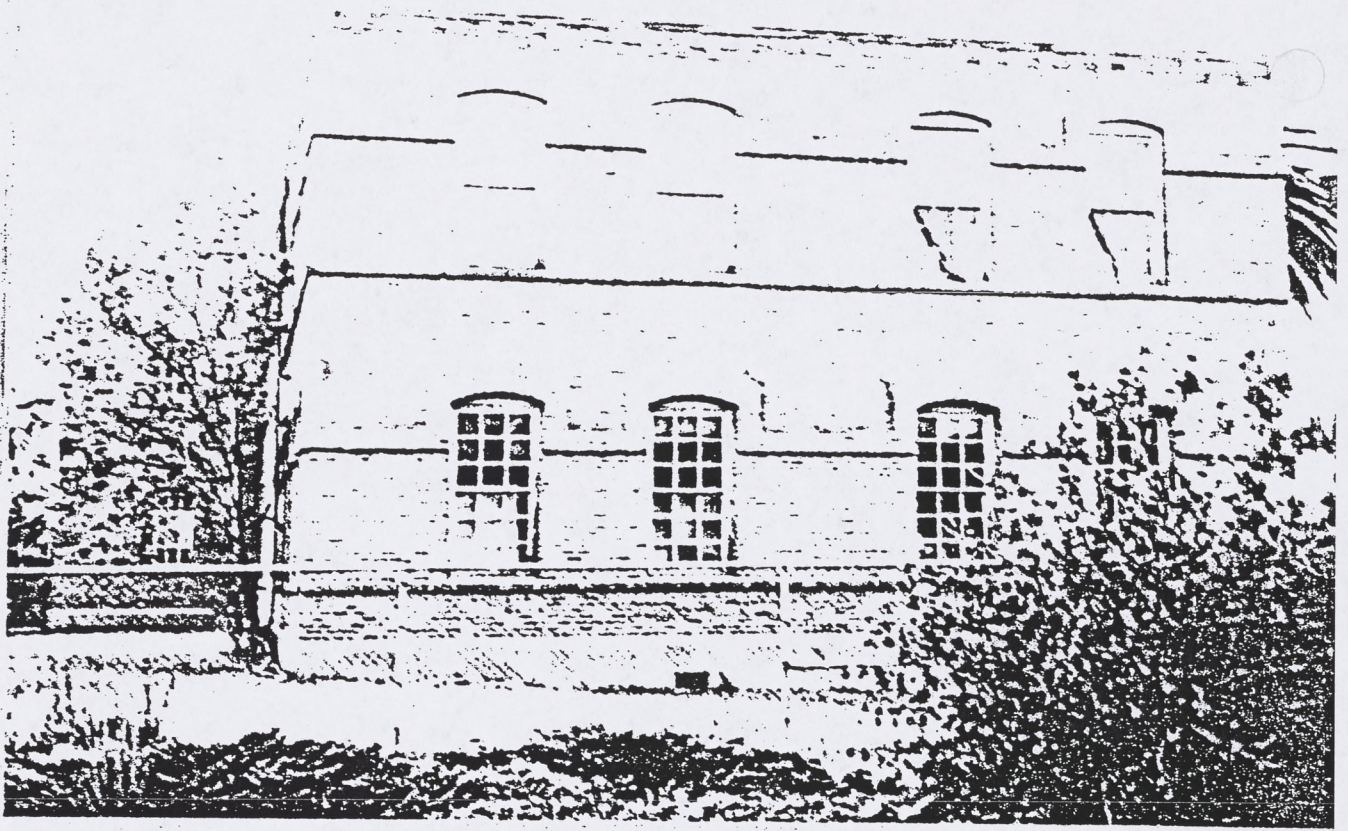


#5

1. Petaluma Silk Mill (Carlson-Currrier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Max Durney
4. November 22, 1984
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing east. Front, center section between original and new towers, showing end of original south wing, beginning of new wing.
7. (1:6) #5 of 12

#6

1. Petaluma Silk Mill (Carlson-Currrier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Max Durney
4. November 22, 1984
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing north. Front and south end of new wing and tower.
7. (1:10) #6 of 12

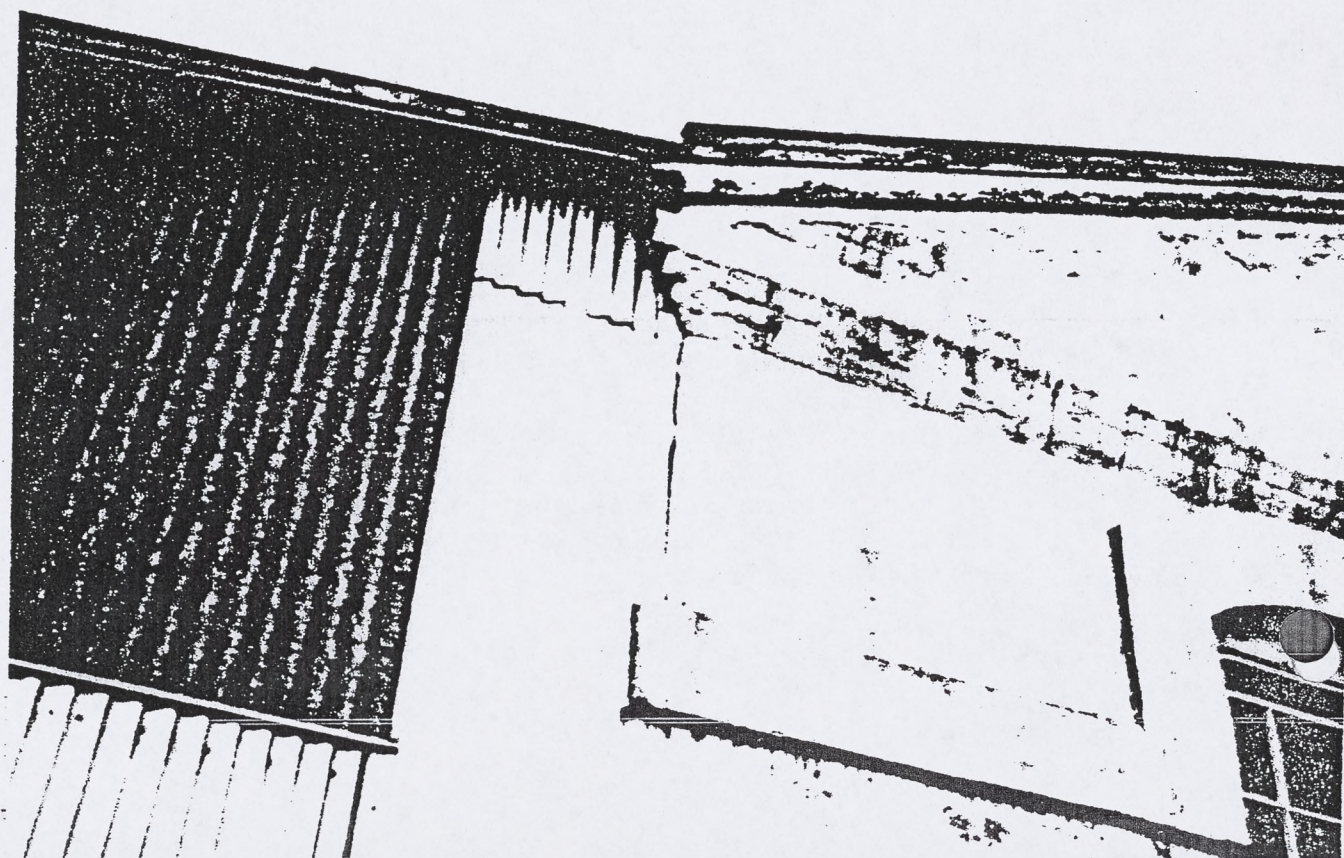


#7

1. Petaluma Silk Mill (Carlson-Currier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Lucy Kortum
4. April 23, 1985
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing north. South end of new wing.
7. (2:8) #7 of 12

#8

1. Petaluma Silk Mill (Carlson-Currier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Max Durney
4. November 22, 1984
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing northwest. Back of new wing, showing two-story projecting access, old boiler rooms, old smokestack.
7. (1:11) #8 of 12

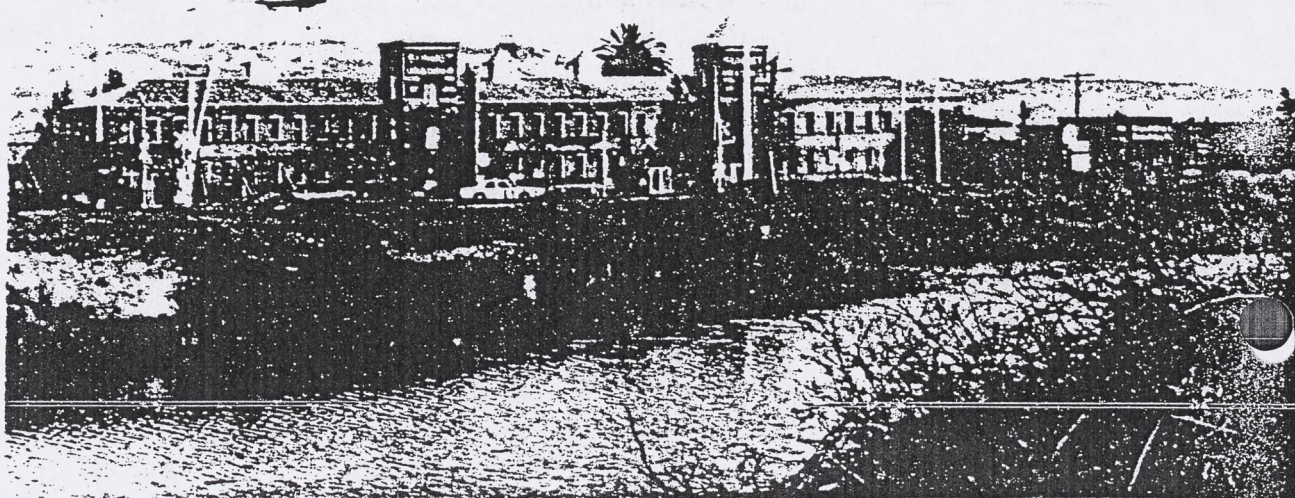


#9

1. Petaluma Silk Mill (Carlson-Currier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Lucy Kortum
4. April 23, 1985
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing west. Dye house and reservoir, boiler room, base of water tower and cupola, with chimney and cupola visible beyond roof of mill.
7. (2:12) #9 of 12

#10

1. Petaluma Silk Mill (Carlson-Currier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Max Durney
4. November 22, 1984
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing west. Detail of end of dye house, taken from Wilson Street, showing brick plastered over.
7. (1:13) #10 of 12



#11

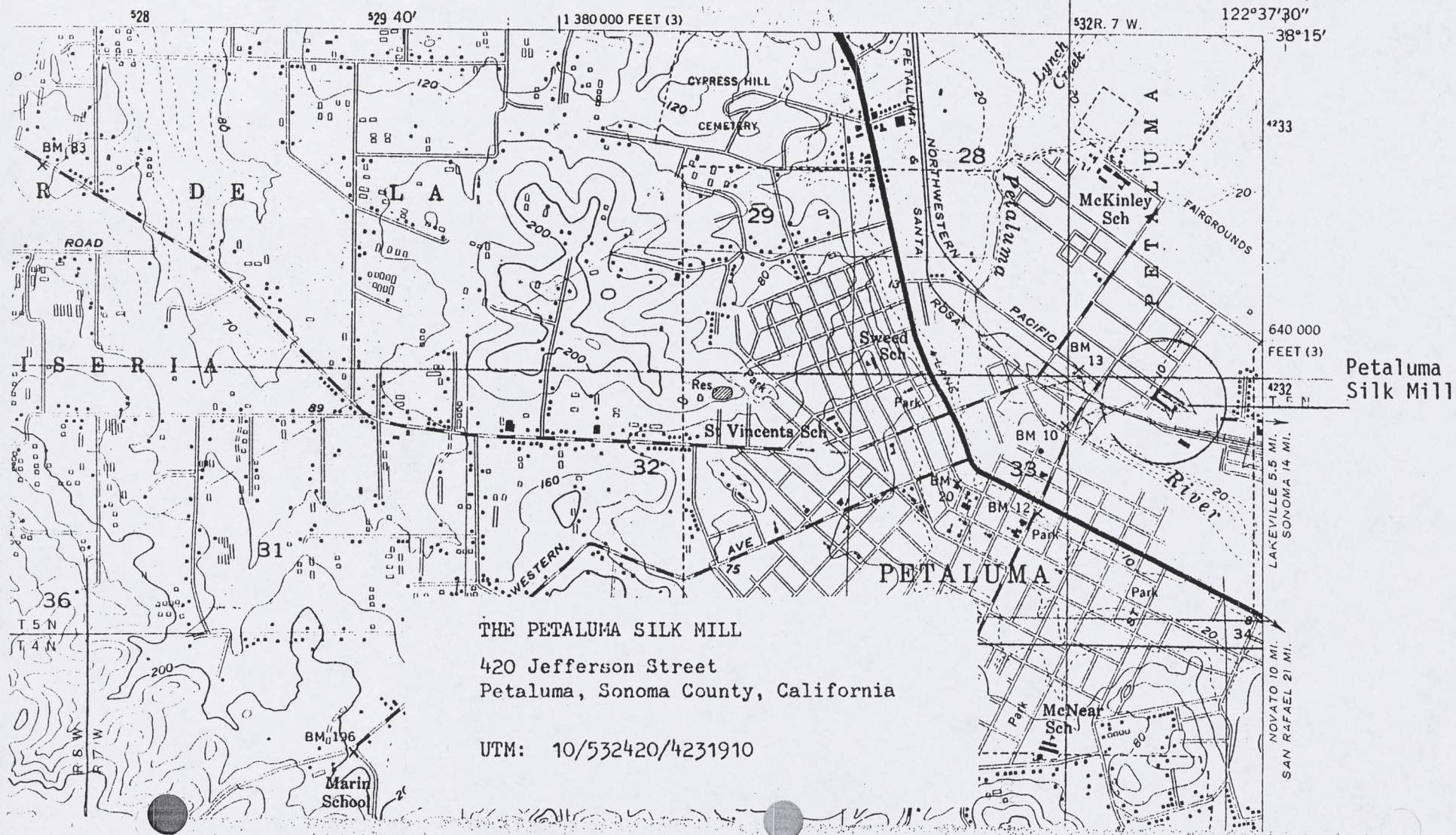
1. Petaluma Silk Mill (Carlson-Currier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Lucy Kortum
4. April 23, 1985
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing south. End of "new silk vault addition" (1906-1912)
with first floor windows and door cut through for entrance
(1922).
7. (2:3) #11 of 12

#12

1. Petaluma Silk Mill (Carlson-Currier/Sunset Line & Twine)
2. 420 Jefferson St., Petaluma, Sonoma County, CA 94952
3. Max Durney
4. November 22, 1984
5. Lucy Kortum, 180 Ely Rd., Petaluma CA 94952
6. Facing southeast. Mill from across McNear Canal just below
Old Steamer Gold Landing.
7. (1:17) #12 of 12

1460 1 SE
(GLEN ELLEN)

122°37'30"
38°15'



GENERAL SPECIFICATIONS.

Plan No. 2-W.

Of material and labor to be used and employed in the erection of a two story Class C addition to the existing Silk Mills Building situated on the northerly corner of Wilson and Jefferson Sta., in the City of Petaluma, County of Sonoma, State of California, for Belding Bros. & Co. of Calif., hereinafter referred to as the Owner, in accordance with these specifications and the accompanying drawings, prepared for same by Brainerd Jones, Architect, 110 Washington Street, Petaluma, Calif.

These specifications and the accompanying drawings are intended to co-operate, so that what is shown on one and not on the other, shall be considered and understood to be set forth in both, to their obvious meaning and intent, and as may be reasonably implied.

They are intended to set forth the particulars of all material and workmanship necessary for the entire construction and completion of the work, anything not shown or described, but which is nevertheless necessary for the completion of the work, must be done with the materials and in the manner called for at similar portions of the work, as though the same were fully shown and described, and no extras will be allowed for such work unless agreed upon before signing these articles.

Any change that may be made as the work progresses shall in no way violate, or vitiate, any contract, or contracts that may be made, but the amount of such change, after it shall have been agreed upon between the Owner and the Contractor, and the particulars of same set forth in writing, shall be added to, or deducted from, the contract price, as the case may be.

The Contractor will give his personal attention to the work as it progresses, will take out and pay for all necessary

permits and licenses, will keep danger lights burning at all material piles, or other necessary points, will comply with all ordinances, and will repair and make good any and all portions of the present building, machinery, equipment and stock that may be damaged during the progress of the work, by him, his workmen, or sub-contractors.

The General Contractor and each sub-contractor must carry Employers Liability Insurance thruout their contracts, to cover all claims against them respectively, for injuries or death to their employees; and Contractor and sub-contractors must hold the Owner free from all responsibility, until the works agreed to be performed shall have been completed and accepted, he will also afford every facility for the inspection of the work at any time by the Owner and Superintendent.

During the progress of the work the Contractor will frequently remove all surplus material and rubbish from the premises and street, and will keep same free from excessive accumulation of material.

DIMENSIONS.

Of the building and works are to be obtained from the present building and the accompanying drawings, comprising nine sheets of blue prints numbered 1 to 9 inclusively, the drawings are to be considered in connection with the present building, verify all given measurements at the building, and in case of confliction the present work to govern.

The Contractor will provide the Steel worker with all exact lengths of columns and other dimensions necessary, from measurements taken at the building before ordering, and will lay out the work according to plans and specifications, subject to minor changes that may be necessary to conform with the present work.

REMOVAL OF PRESENT WORK.

After carefully shoring up the present hipped roof, and

ends of present second floor girders all at south end of building, remove present tin roof at south end slope of present building, together with all sheathing, rafters, and purlines at same, also present purlines at each side of present roof from south end of building to first present truss, remove present brick wall at south end of building from top of present concrete foundation to top of wall at main roof line, together with all present windows and frames at same.

The run of present c.i. rain water pipe running across south end of building is to be carefully shored up and left in about its present position.

Remove all further present work that may be necessary to carry out the general scope of the work, and to permit of the practical incorporating of the new work with the present building.

All present material of every description that will be removed as above is to remain the property of the Owner.

Before removing present brick end wall at south end of building, construct a temporary partition across end of present mill building at both floors set inside of present brick wall, of such material and in such a manner as to prevent any dust or weather from entering the present mill building during the progress of the work.

The present tin roof is not to be removed until the new work has progressed to a point where the removal of the present tin roof will not expose the present mill and contents to the weather.

Thruout the contract the Contractor will so conduct his work as to interfere in no way with the operation of the present mill.

EXCAVATING AND FILLING.

Grade off inside of building lines to leave 21" below under side of first floor joists.

Excavate for walls and piers to depths shown, or to a less or greater depth as necessary to reach to firm bearing, figure depth shown, and if greater depth or less depth is directed, the cost of such greater or less depth to be added to or deducted from the contract price as the case may be.

Some of the present earth so removed may be used to fill in below concrete floor at Toilet Room and at Loading Platform, the surplus earth to be removed from the lot.

All trenches to be left uniform and level on the bottom ready to receive the concrete.

After the foundations are in place fill in against same, thoroughly tamping all filling.

CONCRETE.

Walls, piers, etc. run as shown, dimensions as figured.

Cement - The cement used thruout the work must be first quality Portland Cement, Mt. Diablo brand or equal.

Rock - To be clean chrushed blue rock of sizes proper for the various portions of the work.

Sand - To be clean Russian River sand or equal, free from all loam, etc.

Proportions - Thruout the work the concrete to be a one to seven mix, one part cement to 2 1/2 parts sand and 4 1/2 parts rock, the proportions of sand to rock may be varied slightly if advisable depending on the coarseness of the sand, or a small amount of clean sharp fine sand of approved quality may be combined with the Russian River sand, if directed, but any changing of proportions of sand to rock or the combining of fine sand with Russian River sand shall not alter the aforesaid proportions of the one to seven mix.

Mixing - Thruout the work the cement, sand and rock at each batch is to be accurately measured, all to be mixed in an approved machine mixer, small batches of concrete may be mixed by

hand, turned twice dry and twice wet.

Forms - Provide and set wood forms for all portions of the work above ground, or below ground where the earth is not firm enough to tamp against.

Placing of Concrete - Thruout the work the concrete is to be put in place wet and slushy, brought up level all around in courses of about 8" high, and thoroughly worked in place with a concrete spade.

Foundation Vents - Provide and place in walls when concrete is poured eight 8" x 14" vents of #10 wire about 5/8" mesh galvanized netting.

Concrete Floors - At Toilet Room first story and at loading platform, provide and lay 2" thick layer of local sand below concrete floors, wet down and tamp.

Rough concrete floors to be full 4" thick, concrete same as for balance of the work, with 1/2" thick top of clean sharp sand and approved Portland Cement in about equal parts, top put on at about same time as slab is poured, trowel smooth, block into 2' squares with a marking tool, carry cementing 6" up against walls for base at Toilet Room.

At loading platform provide and set all around at angle, an approved galvanized curb bar.

CONCRETE STEPS.

At loading platform to be same construction as the platform, provide and set approved galvanized curb bar nosing at each step.

Magnesite Floor - At Toilet Room second story to be DORITE or equal magnesite floor 1/2" thick colored brick red, trowelled smooth coved up 6" against walls for base.

Cementing - Outside face of all concrete foundation walls and walls at loading platform and steps at same, and including wash at top of foundation walls to be cemented 1/2" thick with clean sharp sand and approved Portland cement in about equal

parts, trowel smooth.

Set in place all bolts or flanges provided by the Sheet Metal Worker for anchoring partitions to floor at Toilet Rooms.

As the depth required to reach to firm bearing may be found to be greater or less than shown, the contractor must state to the General Contractor a sum per cubic foot that will be deducted, and a sum per cubic foot that will be added, in the event of the footings being carried to a greater or less depth than shown, the price so stated to include and cover all cost of excavating and concrete.

BRICK WORK.

Damp Course -Before commencing the brick work, paint tops of concrete foundation walls two coats PABCO or equal. Carefully remove such bricks and brick work as will be necessary to permit of the insertion of two steel columns at ends of present walls where shown, and the bonding of the new brick work into ends of present brick walls.

All present brick in the present brick walls at South end of building that will be removed, are to be thoroughly cleaned, by this Contractor, and used as far as they will go in the new work.

All other brick thruout the work to be best hard red building brick of the McNear manufacture, or equal.

All brick thruout to be laid in good rich lime mortar to which shall be added as the mortar is being tempered and used one part approved Portland Cement to six parts mixed mortar.

All brick well wet before laying, all push laid, joints and courses thruout the work to be filled full with mortar, neatly struck, walls to be laid true to line at both inside and outside faces.

Thruout the work every sixth course to be a header course, inside courses of headers above and below.

Sill courses, under bearing plates and at similar points to be header course on edge, bottom course at belt courses to be a header course.

All new brick work to be carefully bonded into present work, the courses of new work to line up with present work.

Turn brick arches full thickness of walls over all openings.

Set all anchors, bond iron, bearing plates, bolts, etc., provided by Steel worker or General Contractor.

Belt courses, brick cornice, sill courses, etc. to be same as at present building.

Form chases for pipes, etc. as necessary.

Cement water tight top of firewall at Toilet Wing.

The entire brick work is to be performed and completed in the best and most workmanlike manner to the entire satisfaction of the Owner and the Superintendent.

IRON AND STEEL WORK.

Provide all iron and steel work required for the completion of the building, and set all iron and steel work other than such anchors, etc. that are usually set by the Brickmason.

Provide $5/8"$ x $18"$ bolts at corners and $4'$ centers at top of all firewalls to bolt down wall plates, also strap anchors hooked over timbers to tie lower purline down to truss and to tie rafters down to lower purline, all of sizes noted on drawings.

$3/8"$ x $2\ 1/2"$ straps $3'$ long at each side of joints in first story girders, ends hooked $1"$ into wood, two $3/4"$ bolts each side of joint.

Steel bearing plates sizes noted at girder ends and below main posts, steel pins at same as noted.

Standard joist hangers at purlines to hip rafters, and at headers at ceiling joists as noted, also at opening for Owners

elevator, to be of size, thickness of metal and type as required for sizes of timbers shown.

1/4" x 3" bond iron to be run at two sides and end of building, at Second Floor joist line and at ceiling joist line, ends and joints at bond iron to be hooked and pinned together or turned up into brick work as directed.

Anchors with 3/8" x 6" x 6" steel plates rivetted on one end, (cast iron washers at truss anchors to match present washers), the other hooked 2" into timbers at all Second floor and ceiling joists, at ends of all girders, lintles, trusses and similar points, as shown and noted to be 3/4" round about 3' - 3" long wherever anchors and timbers run parallel with each other, where anchors run at right angles with timbers the anchors to be 3/8" x 2" of length required to reach to third joist, spiked to timbers wherever they cross, in addition to being hooked down at ends, the carpenter to bridge solid at these anchors, all anchors thruout as above at joists, rafters, etc. spaced about 5' - 4" apart at joists, 6' apart at ceiling joists.

3/8" x 2 1/2" x 3' - 6" anchors, ends hooked 3", set about 4' centers in line of height at each side of building to anchor present walls to new walls.

Rods, plate washers and bolts at trusses as shown.

All anchors, plates, bond irons, etc. to be of best quality, no welds in truss rods.

Provide drift pins at interior girders to columns as noted.

Steel Stairs - To be run as shown, the various members to be sizes noted on drawings, all channel irons at platforms to be run into walls of building and securely anchored, all connections thruout the work to be standard connections, and all to be thoroughly riveted together and securely erected in position.

At each side of all stairs and platforms run 1 1/4" galvanized pipe rails with standards as shown.

Steel Sills - At exits to steel stairs, to be standard checkered plate of widths required to cover brick work and to extend under wood door sill, angle iron nosing on edge.

Steel Columns - The Contractor to furnish exact lengths of columns from measurements taken at the building.

The various sizes of plates, angles, columns, etc. to be as noted, all connections of columns to timbers to be solidly bolted or lagged, all plates, angles etc. at columns to be thoroughly hot riveted together to be counter sunk and flush riveted at bearings.

All structural steel to be given two coats paint, red lead in oil at shop, black graphite in oil at the building.

Steel stairs to be painted one coat red lead in oil at shop only.

TIMBERS AND FRAMING.

All lumber and framing timbers thruout the building unless otherwise stated is to be best merchantable Oregon Pine, dimensions as figured or stated, all thruout to be well cut, fitted and framed together, and nailed and spiked with such sizes and numbers of wire nails and spikes as will be required to make strong substantial work, and as may be directed by the Superintendent, all to be seasoned and dry.

Story heights are to be determined by heights of the existing building.

Main wall plates to be #1 Redwood probably 3" x 8".

Check size of wall plates with those of present building before ordering and change size if necessary to conform with present main wall plates.

Wall plates at first floor joists to be #1 Redwood 2" x 4" or 3" x 4" as necessary to conform with present wall plates.

Sills	#1 Oregon Pine	10" x 12"
First Story Girders	" " "	SIE & 2S 10" x 12"
First Floor joists	" " "	3" x 14"
Second Floor joists	" " "	3" x 14"
Truss Timbers	" " "	sizes noted
Purlines	" " "	4" x 6" & 6" x 6"
Headers at ceiling joists	" " "	3" x 12"
Hip Rafters	" " "	3" x 12"
Ceiling joists	#2 " "	2" x 6"
Common rafters	" " "	2" x 6"
Rafters at Toilet Wing	" " "	2" x 8"
Second Floor joists at Toilets	" " "	2" x 6"

Interior turned columns #1 Oregon Pine size noted, turned to match present columns, bolsters at same Oak size noted.

First story girders to be long enough to reach two spans and with 3/8" x 2 1/2" straps at each side.

Floor joists not to be sized.

Floor joists set 16" centers, ceiling joists set 2' centers, rafters 33" centers.

Set second floor joists at Toilet Room at Second Story at proper level to bring magnesite floor level with second floor at mill.

Double headers and trimmers at roof ventilator.

Frame out in second floor joists, opening for a small elevator probably about 2' - 6" x 3' at point directed, double headers and trimmers, standard joist hangers.

Double second floor joists at against steel H columns, for full width of building.

Trusses framed as shown, rods, bolts, etc. as noted, give proper camber.

Solid bridge at ends of first floor joists and over bearings at both floor joists, bridge solid at anchors running across timbers.

Run a row of herring bone bridging in center of all spans at all floor joists.

Set in any required nailings for Sheet Metal worker.

ROOF.

Run in new purlines at side slopes present roof at south end of building, back to first truss, new rafters as required.

New roof framed as shown, strap lower purline to trusses, and strap rafters to lower purline with wrought iron straps as noted hook over timbers.

Construct roof ventilator as shown, 2" x 6" rafters and ceiling joists, 6" x 6" corner posts.

Close board entire roof surfaces with #2 T. & G. 7/8" x 6" O.P., well driven up two nails at each nailing, all nails well driven home, make all ready for tin roof, roof of roof ventilator sheathed same, roof over Toilet Room wing sheathed same.

BUILT UP ROOF.

Over Toilet Room wing to be Johns-Manville 3 ply built up Phoenix roof applied in accordance with the Manufacturer's specifications, by the Company's own roofers, and in addition to the standard requirements is to be finished with a flood coat of asphalt and a top surface of screened gravel.

To be covered with the Johns-Manville's written guarantee for ten years, and further protected by their periodical Inspection Service.

FLOORS.

Concrete floor at Toilet Room at first story, by concrete worker.

At Toilet Room second story lay a rough floor of #2 7/8" x 6" T. & G. O.P., two nails at each nailing, make ready for magnesite floor by concrete worker.

Over all other floor surfaces at both stories of building lay a rough floor of 1 1/8" x 6" #2 O.P. put on diagonally cut to 45 angle and butted over joists, well nailed two nails at each nailing, and cover with a finish floor of #1 1" x 4" strictly vertical grain O.P. flooring thoroughly dry and seasoned, to be well driven up blind nailed, face nailed at ends and joints, all over wood at end joints cleaned off.

Building Paper - Provide and lay two ply P & B paper between rough and finish floor over entire surface of first floor of building.

Frame trap door in first floor where shown for access to clean out, double trimmers and headers, joists hangers.

No floor to be laid at attic.

FIRE STOP.

At attic at line of present south end of building, partition off present attic from new attic, from ceiling to roof with #1 1" rough Redwood boards with #1 1" x 3" rough Redwood battens, all to be free from loose knots or openings.

Provide and hang batten door on strap hinges, and with hasps and latch, swing this door into present attic.

T. & G. CEILING.

Over entire ceiling surface of second story of building to be #1 grade well driven up, jointed on nailings, blind nailed, face nailed at ends and joints, all over wood cleaned off, break 2" bed mould all around against walls, this T. & G. to be width and V joint or beaded as required to match present T. & G.

T. & G. PARTITIONS.

At entrance to Toilet Rooms to be #1 1" x 4" V. joint T. & G. O.P. dressed both sides roof over with same at 7' - 6" high, quarter round at angles, 3 3/4" sq. dressed O.P. posts, dressed 2" x 3" O.P. girts.

DOOR FRAMES.

Outside door frames to be 1 3/4" x 7 3/4" clear Redwood rabbeted, 1 1/2" staff mould, segment heads of 2" stock bolt to brick walls.

See that painter has primed door frames before setting.

3 3/4" sq. O.P. posts rabbeted at entrances to Toilet Rooms.

W.C. doors hinged to pipe standards, these standards by Sheet Metal worker.

DOORS.

To loading platform and to steel stairs to be full 2" thick, glazed at upper part with 21 oz. glass cut up with wood bars, flat panels below.

Doors at entrances to Toilet Rooms to be 1 1/2" thick Colonial, 5 flat panels, excepting where noted on drawings Moss Glass sash doors.

Doors to W.Cs. to be 1 1/8" thick 2' x 4' - 6" one flat panel.

All doors to be of clear O.P., with moulding run on edge of all rails and stiles, all to be dowelled and glued together.

TRANSOMS.

To be of O.P. same width and thickness as doors below, glazed with 16 oz. glass cut up with wood bars, transoms fixed.

WINDOW FRAMES.

Five present window frames to be used, (no present sash to these frames), all other windows to have box frames, 2" R.W.

moulded sills, 1 1/8" O.P. Vertical grain pulley stiles, blind stops, casings, stops, parting beads, segment head of 2" stock, staff mould, etc., all to be complete and the various members to match present window frames, proper size ball bearing sash pulleys.

See that Painter has primed window frames before setting.

SASH.

To be of sugar pine 1 3/4" thick cut up with wood bars as shown, glazed with 16 oz. glass, new sash also at five present window frames reset.

GLASS.

At doors to be 21 oz. set with wood stops, all other glass to be puttied and back puttied with linseed oil putty.

HARDWARE.

Provide and set all rough hardware, including wire nails and spikes, that will be required to complete the building.

Provide and set all finish hardware required as follows.

Finish hardware to be solid brass.

All outside doors hung on three loose pin ball bearing butts, mortised easy spring lock at door to loading platform, Von Duprin Self Releasing Fire Exit Latches at doors to Steel Stairs, approved "hold back" fasteners at these doors to hold same open when thrown clear back.

Doors at entrances to Toilet Room, i.e. between Mill and vestibule to be hung on 3 1/2" x 3 1/2" loose pin steel brass plated butts and to have Yale or equal Door Closer.

Doors between vestibules and Toilet Rooms to be double acting, hung on Chicago butts, pressed brass push plates 3" x 12" at each side.

Proper sash locks and lifts, at all windows.

Proper hinges and latches at W.C. doors bolted to pipe standards.

PLUMBING.

From clean out under first floor of building at near Toilet Room, run 4" C.I.S.P. to and connect with the Wilson St. sewer as noted on Foundation Plan.

Run 4" C.I.S.P. branches to W.Cs. and to one conductor.

2" C.I.S.P. or W.I. galv. wastes to basin and wash sinks.

Sewer waste and vents to be of C.I.S.P. or W.I. galv. pipe, connections at C.I. pipe to be made with Ys and proper bends, lead caulked joints, ends of W.I. galv. pipe to be reamed smooth, connections made with long Tys and easy bends.

Give sewer and wastes proper fall, hang to timbers where possible with metal hangers.

The Plumber is to excavate for all sewer below ground and is to fill in over same when in position.

Place in main run a fresh air inlet and trap at most practical point.

Rough in wastes and vents for two future W.Cs.

Vent all fixtures, 4" C.I.S.P. from W.Cs., W.I. galv. vents size of traps from other fixtures.

Traps - N.P. 1 1/2" traps and wastes at all fixtures other than W.Cs.

Supply - From present water pipe at about point shown on Foundation Plan, run 3/4" galv. water pipe to wash sinks, 1/2" branches to each W.C. and to basin.

Place 3/4" globe valve in main run, N.P. angle valve at basin, and wash sinks, cold supplies only, globe valve at each W.C.

Rough in supplies for two future W.Cs.

The best of galvanized pipe, and malleable fittings to be used thruout.

Rain water disposal - The present run of c.i. pipe across south end of building to be reset in about present position

at the proper time.

The present 4" run of piping from southeast corner to the present 6" run, a distance of about 66' is to be taken down and used as far as it will go in the new run of rain water pipe across south end of new building, continue this run with about 40' of new 4" C.I.S.P. to the southeast corner of the present building.

Continue the run with 5" C.I.S.P. for about 66' to, and connect with a present 6" main run of rain water pipe.

All as shown on Sheet No. 8.

Disconnect present runs, and re-connect all present branches with the new runs.

All to be given proper fall, connections to be made with Ys, and proper bends, lead caulked joints, all to be made perfectly water tight, water tight connections to the galvanized iron gutters, and all securely fastened to the building with metal hangers of proper length.

Fixtures - W.C. to be an approved make of High Tank Wash Down Combination complete, Cast Iron Tank enamelled inside, N.P. flush pipe, 5 year guaranteed 1 1/4" oak seat no covers, N.P. hinges.

Basin - To be Standard BEVERLY - Plate P 4335 with N.P. chain and plug, N.P. soap dish or soap dish cast in slab, Mueller N.P. basin cock, cold supply only, N.P. trap and waste.

Two wash sinks at second story to be "Standard" Porcelain Enamelled Roll Rim Integral Wash Sink, Plate P 6450 E, 4' long with center outlet, on metal brackets, N.P. soap dish, two N.P. Mueller cocks, cold supply only. N.P. trap and waste to sewer.

One wash sink at Toilet Room first story same as above only 3' long.

All to be performed in the best and most sanitary manner,

in full accordance with local rules and regulations.

Furnish Owner with certificates of inspection from the local Plumbing Inspector at the proper times.

All piping for Heat for building will be done by Owner under separate contract. Sprinkler System will be done by Owner under separate contract.

SHEET METAL WORK.

Tin work - The entire end slope of present tin roof at south end of building will be removed.

Remove such portions of the present tin roof at side slopes of present building at against new tin roof as will be necessary and carefully secure present tin roof to the new tin roof.

Entire roof surface of main roof of the building, (except roof over Toilet wing which will be built up roof by General Contractor), and such portions of present tin roof as will be necessary to practically incorporate the new tin roof with the present tin roof, is to be covered with a standing seam tin roof.

The tin to be I.C. Menlo or equal, sheets 14" x 20", all tin roofing to be done in accordance with the Standard Specifications of the National Association of Master Sheet Metal Workers.

The under side of all sheets to be painted by this contractor one good coat of Venetian red in pure linseed oil before laying.

Roof of roof ventilator to be covered with pressed metal shingles of size and pattern matching as nearly as possible those at present roof ventilators.

Galv. iron - Galv. iron base, pilasters, cornice, louvre vents, and finish at roof ventilator to be of #26 galv. iron, re-dipped galv. netting at inside of louvre vents.

Main roof gutters and cornices to be of #24 galv. iron,

form pitch in gutter to drain to outlets, cornice to match present members.

One conductor, from roof of Toilet wing to be 3" caliber, #26 galv. iron well secured to building, #24 galv. iron outlet and leader head, connect to sewer.

Removable galv. netting guards at conductor head and at all outlets of main roof gutter.

Make connections to rain water pipes from main roof gutters water tight.

At Toilet Rooms provide and set 1 1/4" galv. pipe standards, with top rail of same size pipe set 6' - 6" above floor, threaded together and to flanges at floor with proper fittings, provide concrete worker with bolts or flanges at proper time and see that same are set in place at concrete floor at Toilet Rooms.

Provide and set #18 galv. iron sheet partitions 4' - 6" high set 12" above floor, turn top and bottom edges over 3/4" galv. pipe top and bottom rails, all securely fastened to pipe standards and to walls.

Drill holes in standards for bolts for hinges and latches.

Any further points noted galv. iron on drawings to be #26.

Thruout the work all galvanized iron is to be well locked, riveted and soldered together, and to tin roof where in contact with same, and all made perfectly water tight.

PAINTING.

At roof - Carefully clean off all grease and rosin, and give entire roof surfaces of all tin roofs of building two good coats of Metallic brown, ^{or} Venetian red in pure linseed oil, of a shade to match as nearly as possible the present tin roof of present building.

Roof of roof ventilator to be painted same.

Give galv. iron roof ventilator, main cornice, gutters and all other galv. iron work, one coat of Sherwin-Williams galv. iron primer and two coats lead and oil paint, color to match present work.

Exterior faces of all door and window frames, doors and sash and any other dressed exterior wood work to be painted three coats lead and oil paint color to match present work.

Prime all parts of door and window frames that come against brick walls an extra coat of lead and oil before same are set.

Paint all surfaces of steel stairs including pipe railing and standards at same one coat black graphite in oil.

At Interior - Paint inside face of all window and door frames, and inside face and all edges of exterior doors, all interior doors, T. & G. partitions, the entire surface of T. & G. ceiling at second story, interior girders, and all other dressed interior wood work, (excepting interior columns which will be shellaced and given two coats wax), to be painted two good coats white paint composed of pure linseed oil, Dutch Boy or equal white lead and Green Seal Zinc.

Trace sash inside two coats paint.

Thruout the work at inside and out, putty all cracks, nail holes or other defects between coats with linseed oil putty.

Paint outside of basin, W.C. tanks, and wash sinks, including brackets at sinks two coats lead and oil and one coat white enamel paint.

Paint sheet metal partitions at Toilet Rooms, and the galv. pipe standards at same, one coat S-W galv. iron primer and two coats lead and oil paint.

Give entire inside faces of all brick walls thruout both stories of the building, and the entire surface of under side

of the second story rough floor and all surfaces of second floor joists and bridging at same, also under side of sheathing and all surfaces of rafters at second floor Toilet Room, to be given one coat of Fuller's Cold Water Paint white in color, no bare spots to show.

ELECTRIC WIRING.

All electric wiring will be done by Owner under separate contract.

IN CONCLUSION.

The foregoing works of their various kinds, are to be performed and completed, in the best and most workmanlike manner, with the best of materials of the various grades called for.

At completion the contractor will sweep clean all portions of the building with which he has been concerned, will remove all surplus material and rubbish from the premises and street, will wash clean all window or other glass, and will turn over to the Owner the entire work, finished and complete in every respect, to the entire satisfaction of the Owner and Architect.

The plans and specifications are to be used for this work only, are to be carefully preserved, and at completion are to be returned to the office of Brainerd Jones, Architect, 110 Washington St., Petaluma, Calif.

NOTICE TO CONTRACTORS.

The Contractors submitting bids for the work are to do so under the express condition, that no bidder is to receive any compensation therefor and that the Owner unconditionally reserves the right to reject any or all bids, or to accept that bid deemed to the best interest of the Owner.

Bonds - The General Contractor will be required to furnish two Surety Co's. Bonds as follows; one bond of fifty per centum (50%) of the contract price covering labor and materials;

and a bond of twenty-five per centum (25%) for faithful performance of contract, the Bonding Company to be satisfactory to the Owner's attorneys.

Sealed bids for the work are to be submitted to the Architect not later than six o'clock p.m. on Monday, February 27, 1922.

Alternate bids for the work are to be submitted as follows:-

No special bid form required.

Bid No. 1, to be for the building constructed and completed in accordance with plans and specifications.

Bid No. 2, same as No. 1 excepting, the building to be two bays longer than shown, a total length of 90' instead of 60'.

The Contractor will also state in his bid a sum per cubic foot that he will add to, and a sum per cubic foot that he will deduct from, the contract price in the event of more or less concrete for foundation being required than shown on the drawings, the price so stated to cover all cost of excavating, cribbing and concrete.

As the date of completion of the work is of great importance, the Contractor must state in his bid, the number of working days that he will require to construct and complete the building and the time so stated will be a factor in determining the award.

No bid will be considered which does not state, as before noted - 1st the amount of bid No. 1, 2nd the amount of bid No. 2, 3rd the price per cubic foot for more or less concrete as stated, and 4th the number of working days required for completion of the work.

The proposal to be accompanied by a certified check for ten per centum (10%) of the amount of the bid, which shall be for-

feited if such bid is accepted and the bidder shall fail to enter into a contract for the construction of the building within twenty-one (21) days after acceptance of said bid.